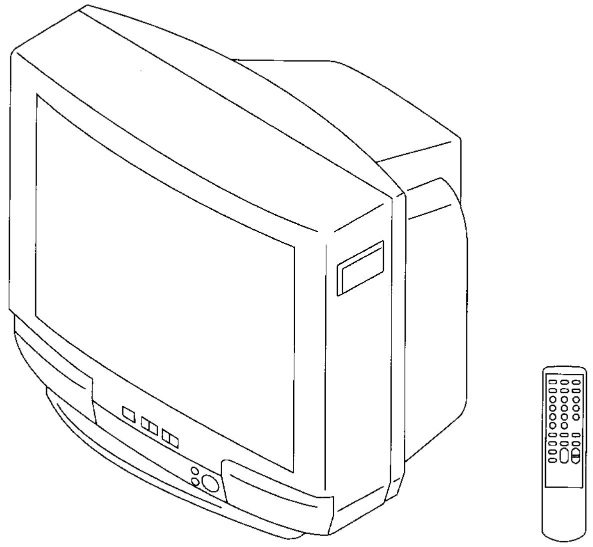
KV-G21M1/G21P1
KV-G21S1/G21S11

RM-870

SERVICE MANUAL



ME Model

KV-G21M1	*Chassis No. SSC-H45L-A*

GE Model

KV-G21P1	*Chassis No. SSC-J07C-A*

E Model

KV-G21M1	*Chassis No. SSC-J30B-A*

Thailand Model

KV-G21P1	*Chassis No. SSC-H85C-A*

Australian Model

KV-G21S1	*Chassis No. SSC-H84C-A*
KV-G21S11	*Chassis No. SSC-H84D-A*

Russian Model

KV-G21M1	*Chassis No. SSC-J17D-A*

Hong Kong Model

KV-G21M1	*Chassis No. SSC-J16A-A*

BG-1S CHASSIS

MODEL OF THE SAME SERIES	
KV-G21M1/G21P1 KV-G21S1/G21S11	

TRINITRON® COLOR TV

SONY®

ROFILM

SPECIFICATIONS

		Note
Power requirements	110-240 V AC, 50/60 Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	B/G, I, D/K, M	KV-G21M1
	B/G	KV-G21P1/G21S1/G21S11
Color system	PAL, PAL60, SECAM, NTSC4.43, NTSC3.58	KV-G21M1
	PAL, PAL60, NTSC4.43, NTSC3.58 (AV IN)	KV-G21P1/G21S1/G21S11
Channel coverage		
B/G	VHF: E2 to E12/UHF: E21 to E69/CATV: S01 to S03, S1 to S41	KV-G21M1/G21P1
	VHF: 0 to 12, 5A, 9A/UHF: 28 to 69/CATV: S01 to S03, S1 to S41	KV-G21S1/G21S11
I	UHF: B21 to B68/CATV: S01 to S03, S1 to S41	KV-G21M1
D/K	VHF: C1 to C12, R1 to R12/UHF: C13 to C57, R21 to R60/ CATV: S01 to S03, S1 to S41, Z1 to Z39	KV-G21M1
M	VHF: A2 to A13/UHF: A14 to A79/ CATV: A-8 to A-2, A to W+4, W+6 to W+84	KV-G21M1
Audio output (speaker)	3W	
Inputs	Antenna: 75 ohms	
	VIDEO INPUT jacks: phono jacks Video: 1 Vp-p, 75 ohms Audio: 500 mVrms, high impedance	
Outputs	Earphone jack: mini jack	
	MONITOR OUT jacks: phono jacks Video: 1 Vp-p, 75 ohms Audio: 500 mVrms	
Picture tube	21 in.	
Tube size (cm)	54	Measured diagonally
Screen size (cm)	51	Measured diagonally
Dimensions (w/h/d, mm)	527 × 464 × 471	
Mass (kg)	22	

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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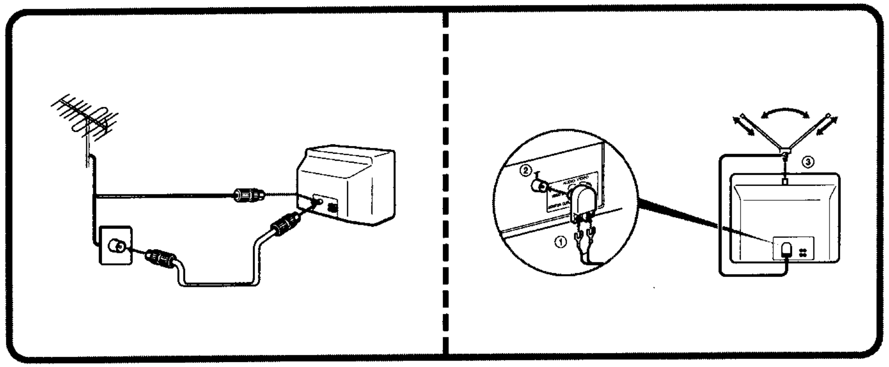
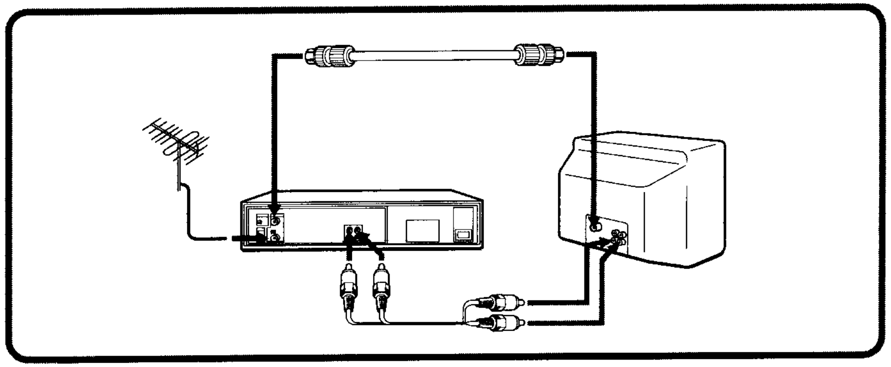
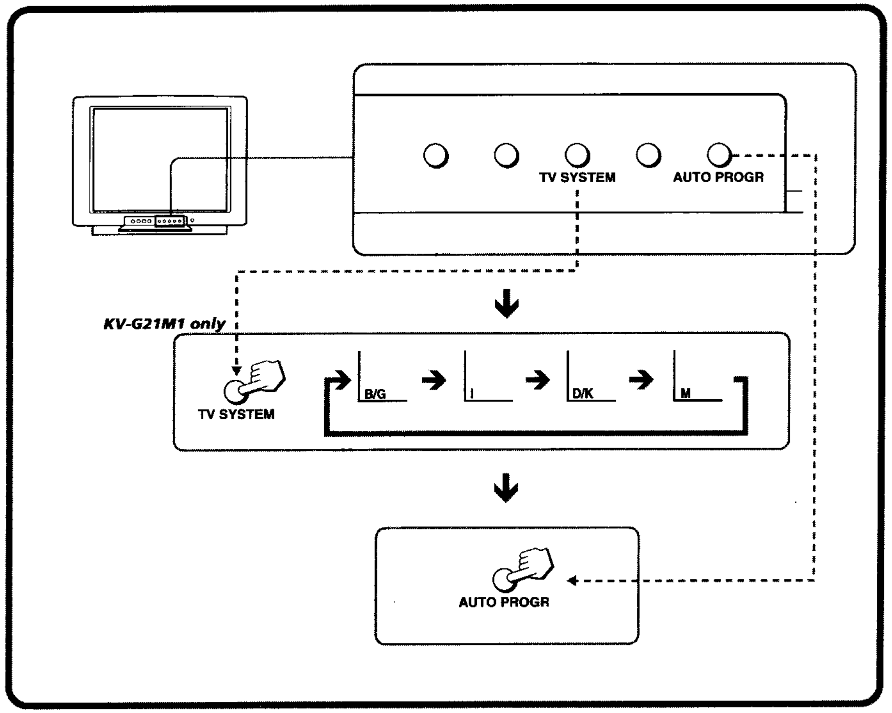
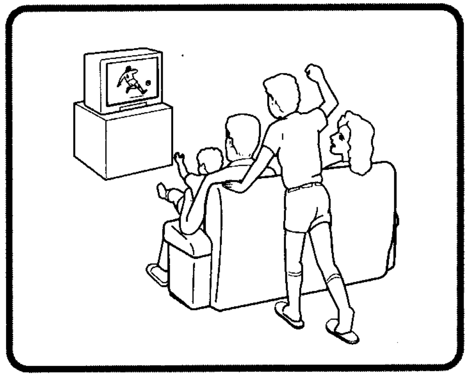
SECTION 1
GENERAL

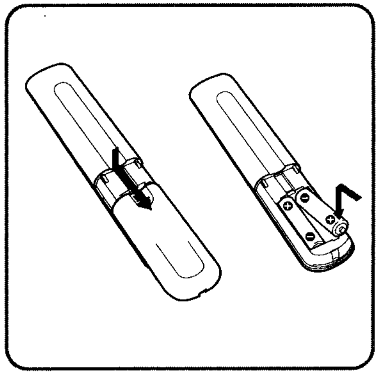
The operating instructions mentioned here are partial abstracts from the Operating Instructions Manual. The page numbers of the Operating Instruction Manual remain as in the manual.






TV SYSTEM
AUTO PROGR
KV-G21M1 only
TV SYSTEM
B/G
I
D/K
M
AUTO PROGR

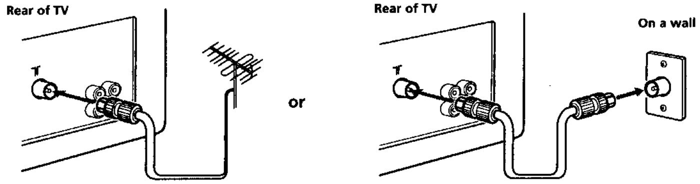




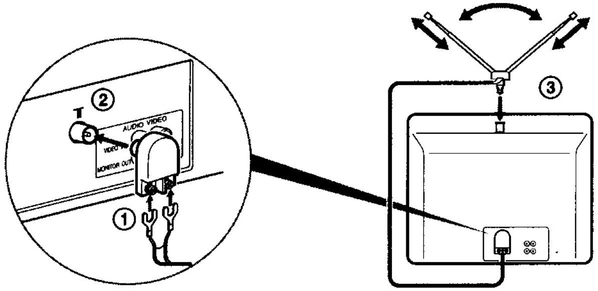
Connections

Connecting a VHF antenna or a combination VHF/UHF antenna — 75-ohm coaxial cable (round)

Attach an optional IEC antenna connector to the 75-ohm coaxial cable.
Plug the connector into the ⫪ (antenna) socket at the rear of the TV.


Rear of TV
or
Rear of TV
On a wall

Connecting an indoor antenna



Note

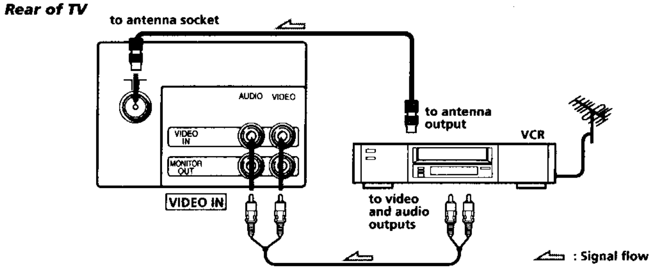
- You are advised to use an outdoor antenna for better reception.

Connecting optional equipment

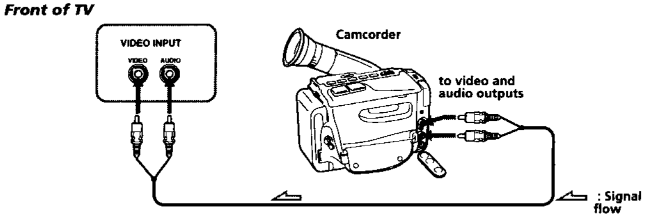
You can connect optional audio/video equipment to your TV such as a VCR, multi disc player, camcorder or video game.

Connecting video equipment using VIDEO IN jacks

Rear of TV


to antenna socket
AUDIO VIDEO
VIDEO IN
MONITOR OUT
VIDEO IN
to antenna output
VCR
to video and audio outputs
: Signal flow

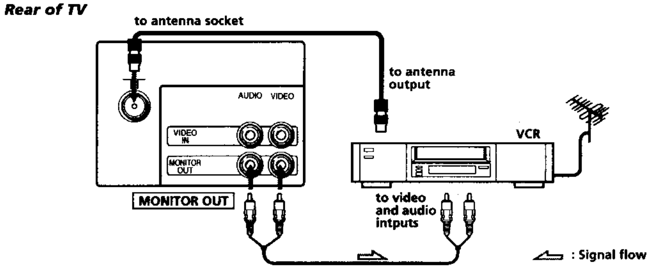
Front of TV


VIDEO INPUT
VIDEO AUDIO
Camcorder
to video and audio outputs
: Signal flow

When using the video input jacks
Do not connect video equipment to the VIDEO input jacks at the front and the rear of your TV simultaneously; otherwise the picture will not be displayed properly on the screen.

Connecting audio/video equipment using MONITOR OUT jacks

Rear of TV

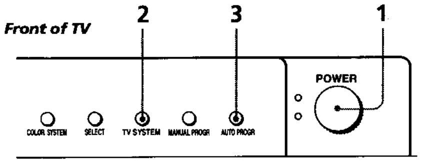

to antenna socket
AUDIO VIDEO
VIDEO IN
MONITOR OUT
MONITOR OUT
to antenna output
VCR
to video and audio intputs
: Signal flow

When recording through the MONITOR OUT jacks
If you change the channel or video input while recording with a VCR, the channel or video input you are recording also will be changed.

Presetting channels

Presetting channels automatically

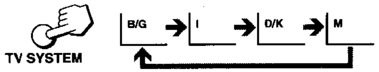
You can preset up to 80 TV channels in numerical sequence from program position 1.



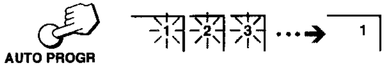
1 **Press POWER.**

When the TV is in standby mode after pressing POWER, press POWER on the remote commander.

2 **Press TV SYSTEM until your local TV system appears (KV-G14C1/G21C1 only).**



3 **Press AUTO PROGR.**



To start presetting channels automatically from the specified program position

1. Press MANUAL PROGR.
2. Press TV SYSTEM to select your local TV system (KV-G14C1/G21C1 only).
3. Press PROGR +/– to select the program position.
4. Press AUTO PROGR.

Presetting channels manually

To change the channel for a particular program position or to receive a channel with a weak signal, preset the channel manually.

1 **Press MANUAL PROGR.**

2 **Press PROGR +/– until the required program position appears on the screen.**

3 **Press TV SYSTEM until your local TV system appears (KV-G14C1/G21C1 only).**

4 **Press VOLUME +/– on the TV until the required channel picture appears on the screen.**

5 **Press MANUAL PROGR.**

If the TV system is not properly selected (KV-G14C1/G21C1 only)

The color of the picture may be poor and/or the sound may be noisy. In this case, select the appropriate TV system.

1. Press PROGR +/– to select the program position.
2. Press TV SYSTEM until the picture and sound become normal.

Notes (KV-G14C1/G21C1 only)

- If you do not know your local TV system, consult your nearest authorized service center or dealer.
- The setting of the TV SYSTEM is memorized for each program position.

Disabling program positions

By disabling unused or unwanted program positions, you can skip those positions when you press PROGR +/–.

1 **Press PROGR +/– until the unused or unwanted program position appears on the screen.**

2 **Press MANUAL PROGR.**

3 **Press PIC MODE on the remote commander.**

4 **Press MANUAL PROGR.**

To cancel the skip setting

Preset the channel manually or automatically again.

Watching the TV

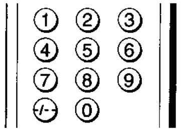
1 **Press POWER to turn the TV on.**

When the TV is in standby mode after pressing POWER, press POWER on the remote commander.

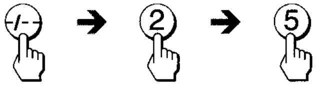
2 **Select the TV channel you want to watch.**

To select a channel directly

Press a number button.

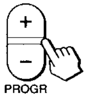


To select a two-digit channel, press "-/--" before the number buttons.
For example: to select channel 25, press "-/--," and then "2" and "5."

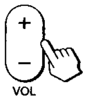


To scan through channels

Press PROGR +/– until the channel you want appears.

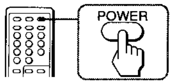


3 **Press VOL +/– to adjust the volume.**



Switching off the TV

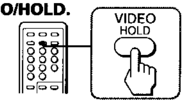
To switch off the TV temporarily, press POWER on the remote commander.

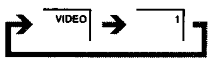


To switch off the TV completely, press POWER on the TV.
If the power on the TV is turned off in standby mode, the STANDBY indicator may remain alight for a while.

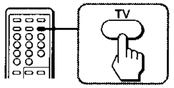
Watching the video input

Press VIDEO/HOLD.



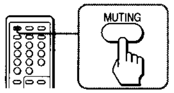


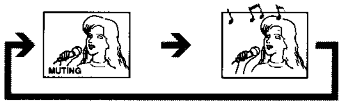
To watch TV, press TV.



Muting the sound

Press MUTING.

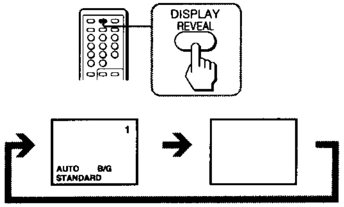




Displaying on-screen information

Press DISPLAY/REVEAL.

The program position, local system, and TV settings are displayed on the screen.

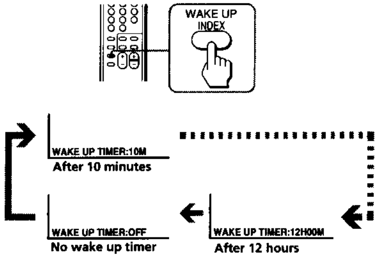

DISPLAY
REVEAL
1
AUTO B/G
STANDARD

Setting the Wake Up Timer

You can set the TV to turn on automatically after the period of time you want.

1 Press WAKE UP/INDEX repeatedly to set the timer.

The on-screen display appears and the WAKE UP indicator lights up.


WAKE UP
INDEX
WAKE UP TIMER:10M
After 10 minutes
WAKE UP TIMER:OFF
No wake up timer
WAKE UP TIMER:12H00M
After 12 hours

2 If you want a particular TV program or video input to be displayed using the Wake Up Timer, select the TV program or video mode.

3 Press POWER on the remote commander or set the Sleep Timer to turn off the TV in standby mode.

To cancel the Wake Up Timer, press WAKE UP/INDEX repeatedly until "WAKE UP TIMER: OFF" appears, or turn off the main power of the TV.

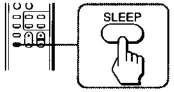
Notes

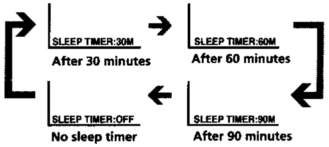
- The Wake Up Timer starts immediately after the on-screen display disappears.
- The last TV program position or video mode just before the TV turns into standby mode will appear when the TV turns on using the Wake Up Timer.
- If no buttons or controls are pressed for more than two hours after TV is turned on using the Wake Up Timer, the TV automatically turns into standby mode. When you want to continue watching the TV, press any button or control on the TV or remote commander.

Setting the Sleep Timer

You can set the TV to turn off automatically after the period of time you want.

Press SLEEP.

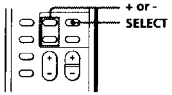



SLEEP TIMER:30M
After 30 minutes
SLEEP TIMER:60M
After 60 minutes
SLEEP TIMER:OFF
No sleep timer
SLEEP TIMER:90M
After 90 minutes

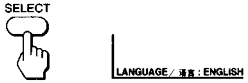
To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP TIMER: OFF" appears, or turn the TV off.

Changing the on-screen display language

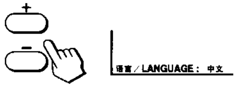
If you prefer Chinese to English, you can change the on-screen display language. You can use buttons on both the remote commander and the TV.



1 Press SELECT until the screen appears as follow:


SELECT
LANGUAGE/ 语言 : ENGLISH

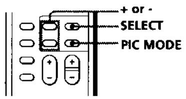
2 Press + or – to select "中文".


+
–
语言/LANGUAGE : 中文

Note

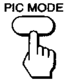
- You can also use VOLUME +/– on the TV to select the on-screen display language.

Adjusting the picture

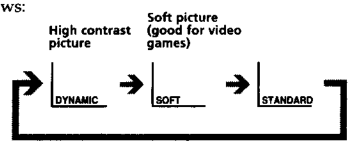

+ or -
SELECT
PIC MODE

Selecting the picture mode

Press PIC MODE until the mode you want appears.



Each time you press PIC MODE, the screen changes as follows:


High contrast picture
Soft picture (good for video games)
DYNAMIC
SOFT
STANDARD

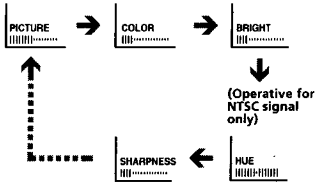
Note

- If you change the picture mode after the following adjustments, the adjustment changes in accordance with the picture mode.

Adjusting the picture setting

1 Press SELECT until the item you want to adjust appears.

Each time you press SELECT, the screen changes as follows:


PICTURE
COLOR
BRIGHT
(Operative for NTSC signal only)
HUE
SHARPNESS

2 Press +/– to adjust the item.

3 To adjust other items, repeat steps 1 and 2.

Note

- You can also use VOLUME +/– on the TV to adjust the picture setting.

If the color of the picture is abnormal

When receiving programs through the ╥ terminal: Press TV SYSTEM (KV-G21M1 only) or COLOR SYSTEM or adjust the color setting until the color becomes normal.

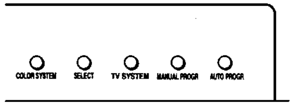
Note

- Normally set COLOR SYSTEM to AUTO.

If the sound is distorted or noisy (KV-G21M1 only)

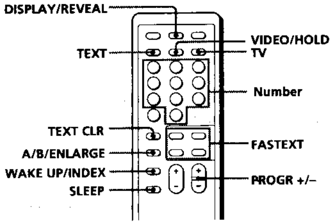
When receiving programs through the ╥ terminal: Press TV SYSTEM until the sound becomes clear.

Front of TV


COLOR SYSTEM
SELECT
TV SYSTEM
MANUAL PROGR
AUTO PROGR

KV-G21S11 only

Viewing Teletext



Displaying Teletext

1. Select a TV channel which carries the Teletext broadcast you want to watch.
2. Press TEXT to display the Teletext.
   A Teletext page is displayed (normally the index page). If there is no Teletext broadcast, 100 is displayed at the top left corner of the screen.

To cancel the Teletext display, press TV.

Superimposing a Teletext page on the TV picture

Press TEXT.
Each time you press TEXT, the screen changes as follows:

→ Teletext → Teletext and TV → TV

Checking the contents of a Teletext service (INDEX)

Press WAKE UP/INDEX to display an overview of the Teletext contents and page numbers.

Using FASTEXT

This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT page is broadcasted, a color-coded menu appears at the bottom of the screen. The colors of the menu correspond to the RED, GREEN, YELLOW, and CYAN buttons on the remote commander.

Press the color button which corresponds to the color-coded menu.
The page is displayed after a few seconds.

Selecting a Teletext page

To input the three-digit page number of the Teletext page, press the number buttons.
If you make a mistake, key in the correct page number again.

To access the next or previous page, press PROGR +/–.

Holding a Teletext page (subpage)

Press VIDEO/HOLD.
The HOLD symbol "⊕ " is displayed at the top left corner of the screen.

To resume normal Teletext operation, press VIDEO/HOLD again or TEXT.

Revealing concealed information

Press DISPLAY/REVEAL.
To conceal the information, press DISPLAY/REVEAL again.

Enlarging the Teletext display

Press A/B/ENLARGE.
Each time you press A/B/ENLARGE, the Teletext display changes as follows:

→ Enlarge upper half → Enlarge lower half → Normal size

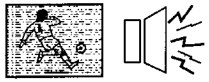
Waiting for a Teletext page while watching a TV program (TEXT CLEAR)

1. Key in the page number of the Teletext that you want to refer, then press TEXT CLR.
2. When the page number is displayed on the screen, press TEXT to switch the Teletext on.

Troubleshooting

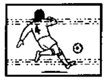
If you have any problems, read this manual again and check the countermeasure for each of the symptoms listed below.
If the problem persists, contact your nearest authorized service center or dealer.

Snowy picture
Noisy sound



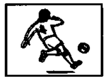
→ Check the antenna.
→ Check the antenna connection on the TV and on the wall.
→ Check the TV SYSTEM setting (KV-G21M1 only).

Dotted lines or stripes



→ This may be caused by local interference (e.g. cars, neon signs, hair dryers, etc.). Adjust the antenna for minimum interference.

Double images or "ghosts"

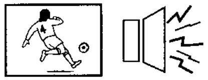


→ This may be caused by reflections from nearby mountains or buildings. A highly directional antenna may improve the picture.

Note on the remote commander

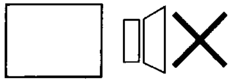
- The supplied remote commander is used on several models of the TV. If you do not find insructions for some controls that are on the remote commander, that means your TV does not employ the features of those controls, e.g. TEXT.

Good picture
Noisy sound



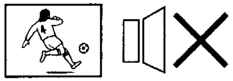
→ Check the TV SYSTEM setting (KV-G21M1 only).

No picture
No sound



→ Press POWER.
→ Check the antenna connection.
→ Check the VCR connections.
→ Check the power cord connection.
→ Check the standby mode.

Good picture
No sound



→ Press VOLUME +.
→ Press MUTING.

No color

→ Adjust the COLOR level in the on-screen display.
→ Check the COLOR SYSTEM setting.

TV cabinet creaks

→ Even if the picture or the sound is normal, changes in the room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.

Note on the TV system

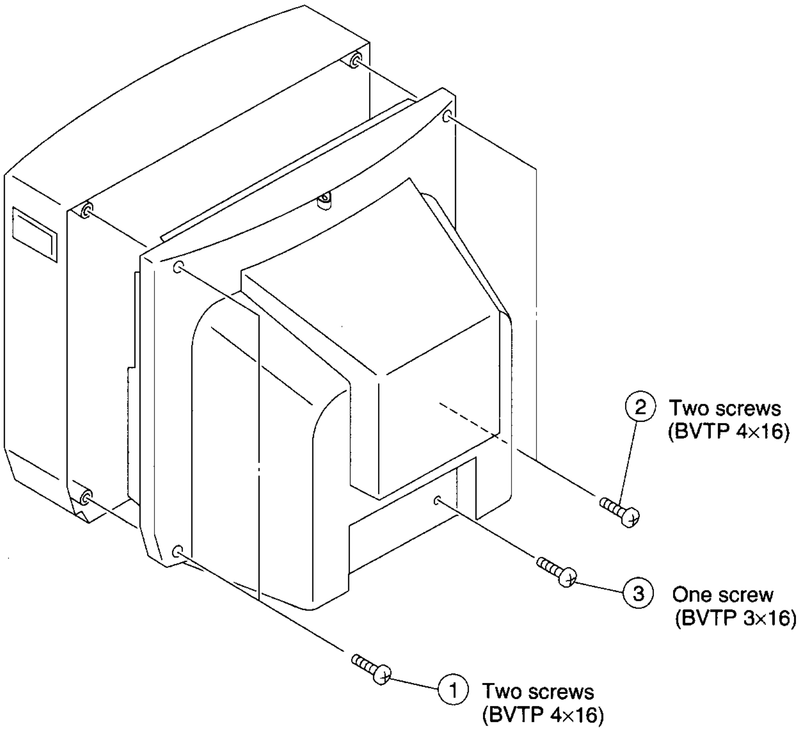
- All of the operations on the TV system in this manual are applied for the KV-G21M1 models only. The TV SYSTEM button is not used on the KV-G21P1/G21S1/G21S11 models.

Information

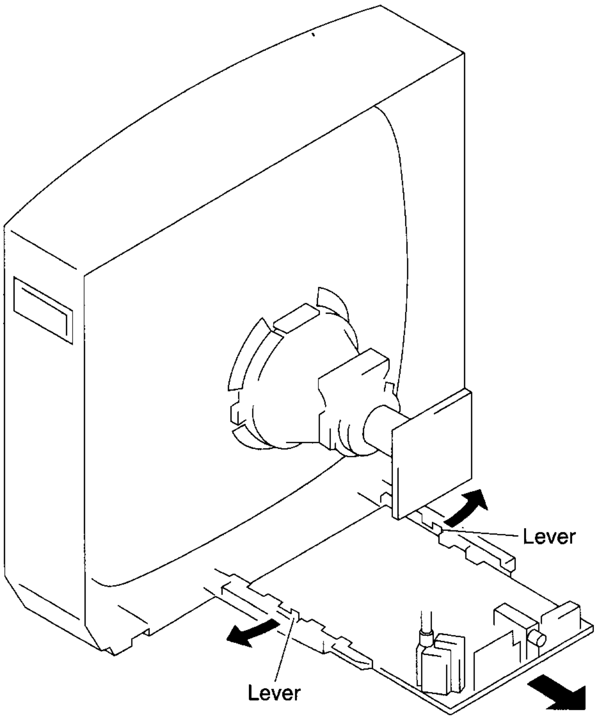
- You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

SECTION 2
DISASSEMBLY

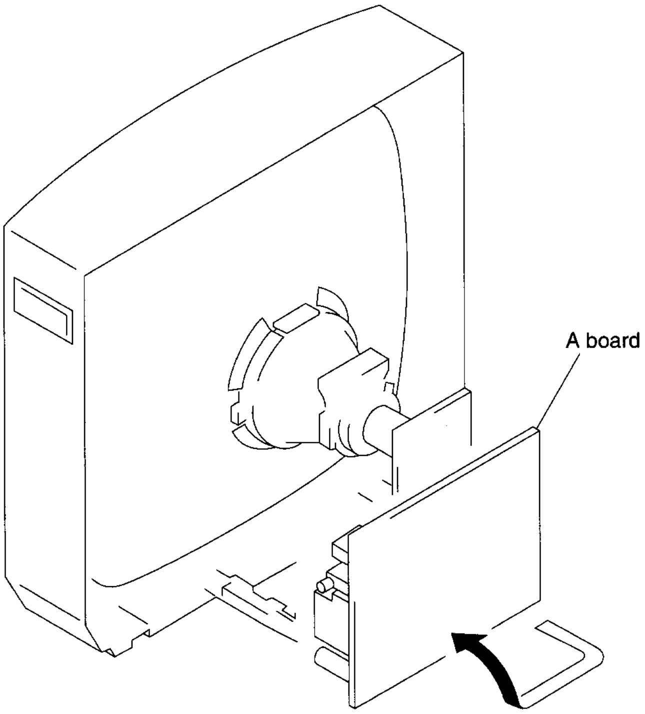
2-1. REAR COVER REMOVAL


② Two screws
(BVTP 4×16)
③ One screw
(BVTP 3×16)
① Two screws
(BVTP 4×16)

2-2. A BOARD REMOVAL


Lever
Lever

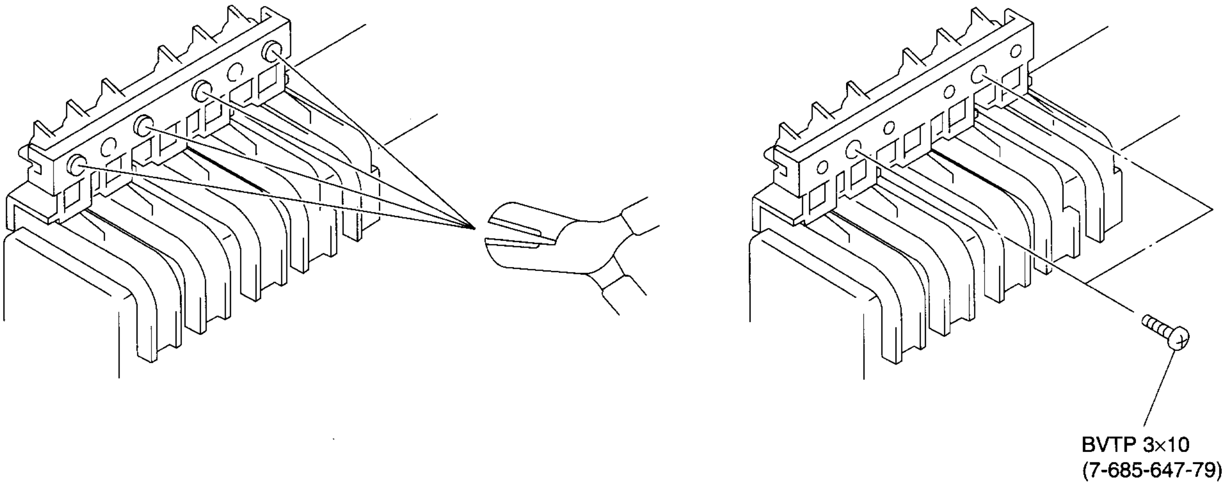
2-3. SERVICE POSITION



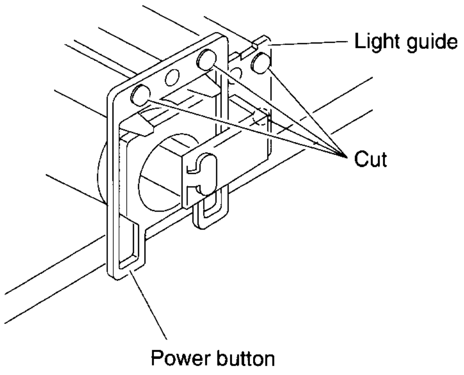
2-4. REPLACEMENT OF PARTS

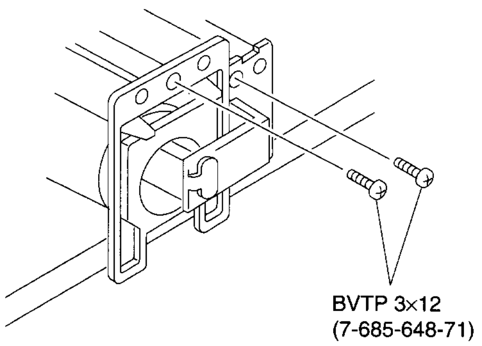
For replacement of the Multi Button, Power Button and Light Guide, cut the welded portions from them, exchange with the new parts, and fix them with screws (+BVTP) respectively.

2-4-1. REPLACEMENT OF MULTI BUTTON

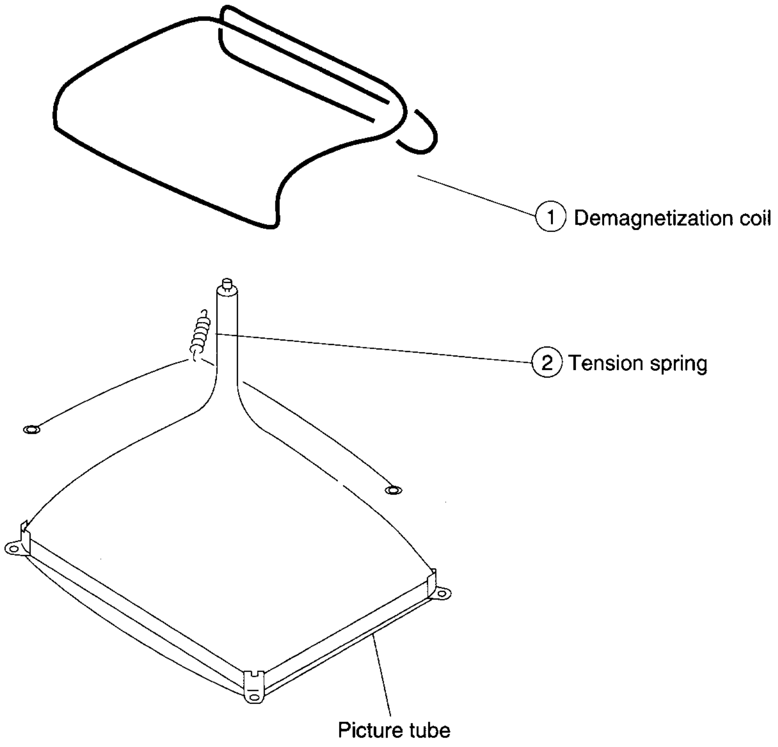


2-4-2. REPLACEMENT OF LIGHT GUIDE, POWER BUTTON

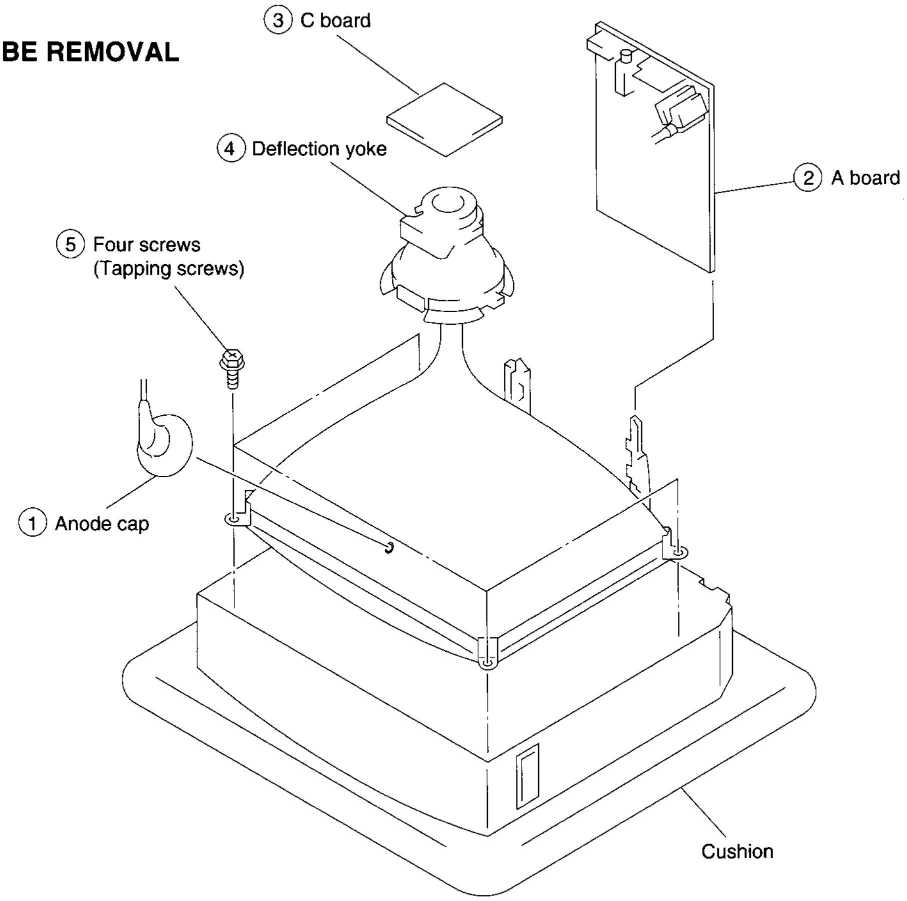

Light guide
Cut
Power button


BVTP 3×12
(7-685-648-71)

2-5. DEMAGNETIZATION COIL REMOVAL


① Demagnetization coil
② Tension spring
Picture tube

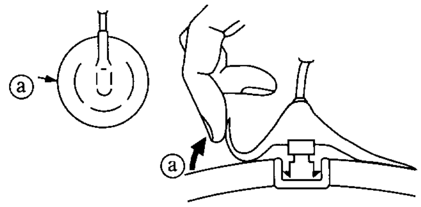
2-6. PICTURE TUBE REMOVAL



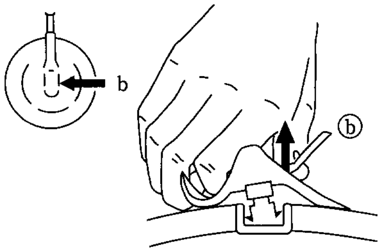
•REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

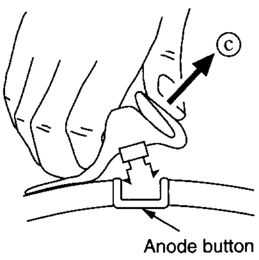
•REMOVING PROCEDURES



① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ**



② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ**



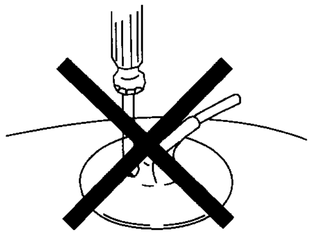
③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ**

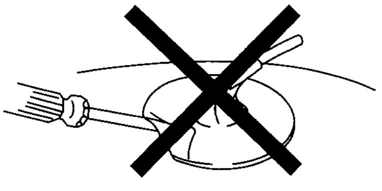
• HOW TO HANDLE AN ANODE-CAP

① **Don't hurt the surface of anode-caps with sharp shaped material!**

② **Don't press the rubber too hard so as not to hurt inside of anode-caps!**
A material fitting called the shatter-hook terminal is built in the rubber.

③ **Don't turn the foot of rubber over hardly!**
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:
PICTURE control .... normal
BRIGHTNESS control .... normal

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness normal }
2. Set the pattern generator raster signal to green.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
4. Move the deflection yoke forward and adjust so that entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

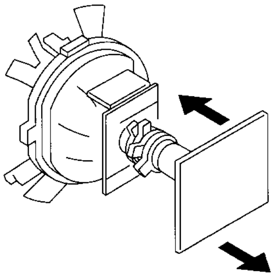


Fig. 3-1

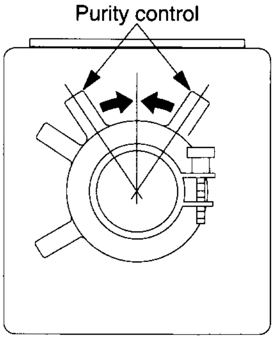

Purity control

Fig. 3-2

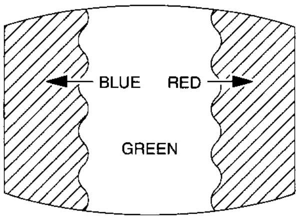

BLUE
RED
GREEN

Fig. 3-3

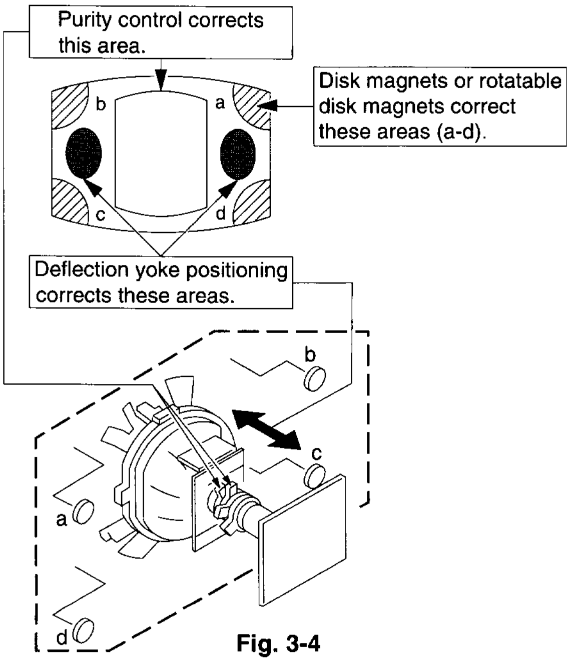

Purity control corrects this area.
Disk magnets or rotatable disk magnets correct these areas (a-d).
b
a
c
d
Deflection yoke positioning corrects these areas.
b
c
a
d

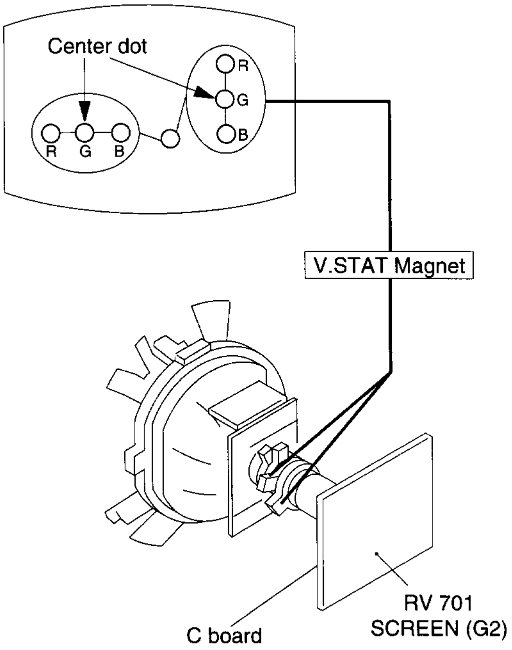
Fig. 3-4

3-2. CONVERGENCE

Preparations :

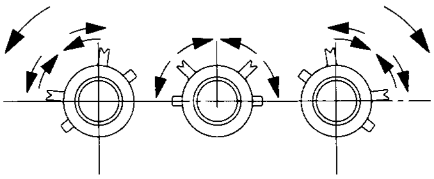
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and Vertical Static Convergence


Center dot
R
G
B
R G B
V.STAT Magnet
RV 701
SCREEN (G2)
C board

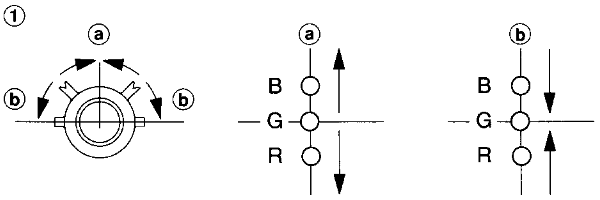
1. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving horizontally), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

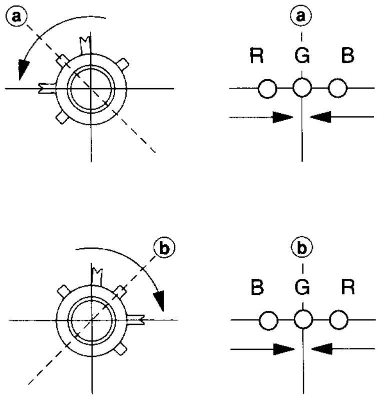


3. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

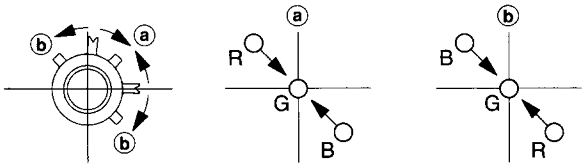
①

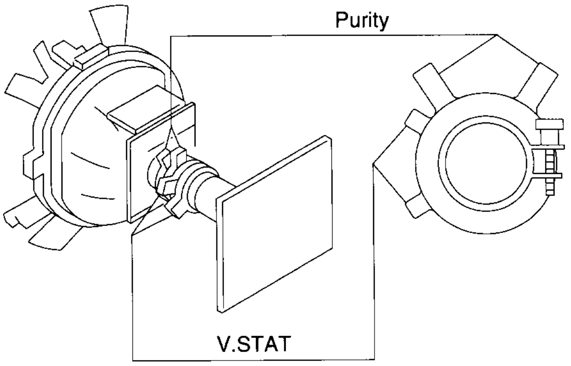


②



③



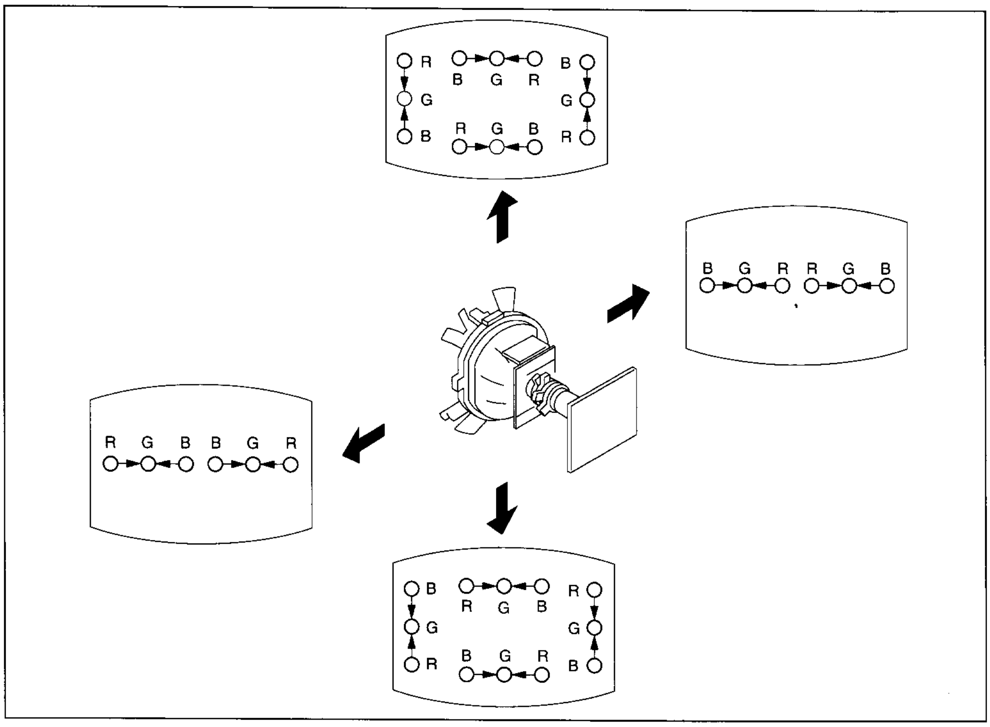

Purity
V.STAT

(2) Dynamic Convergence Adjustment

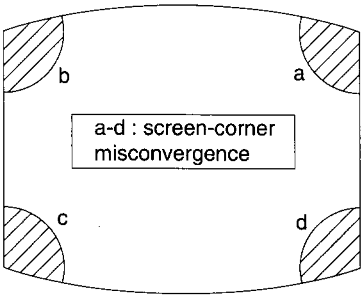
Preparations :

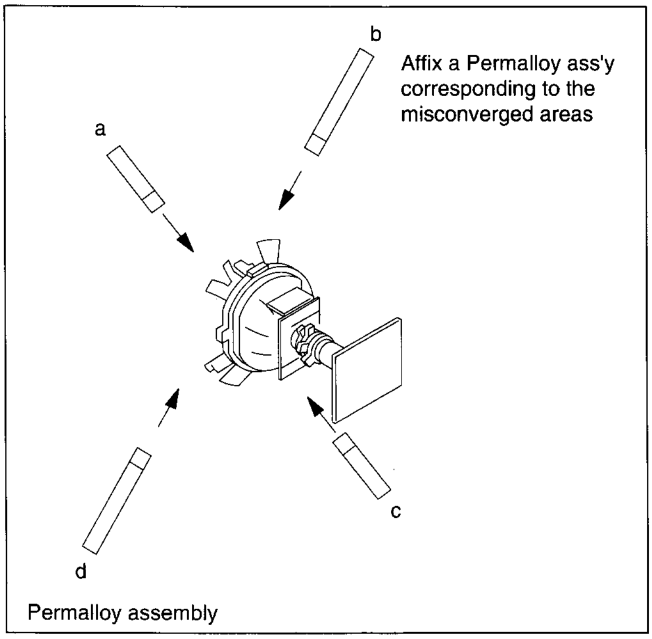
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R G B
B G R
R G B
B G R R G B
R G B B G R
B G R
R G B
B G R

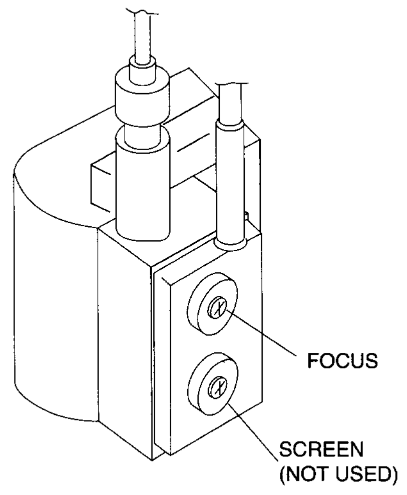
(3) Screen-corner Convergence


b
a
a-d : screen-corner misconvergence
c
d


b
Affix a Permalloy ass'y corresponding to the misconverged areas
a
c
d
Permalloy assembly

3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for the best focus.



FLYBACK TRANSFORMER (T851)

Note: Screen VR is not used.

a. AN ITEM OF ADJUSTMENT

Item number	Adjustment item	Initial DATA	Note
09	RDR	25	WHITE POINT R
0A	GDR	20	WHITE POINT G
0B	BDR	20	WHITE POINT B

b. METHOD OF CANCELLATION FROM SERVICE MODE

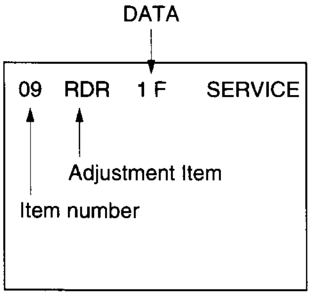
Set the standby condition (Press POWER button on the commander) in the next place, press POWER button again, hereupon it becomes TV mode.

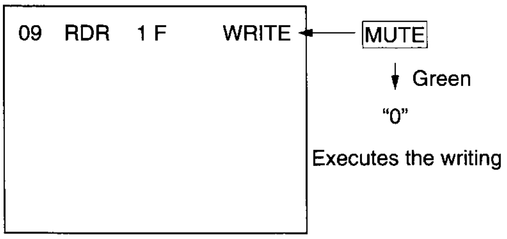
c. METHOD OF WRITE FOR MEMORY

1) Set to Service Mode.
2) Press 1 (UP) and 4 (DOWN), select an item of adjustments.
3) Press MUTE button indicate WRITE (Green) on screen.
4) Press 0 button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.

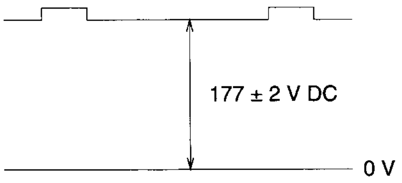




3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT (RV701)

1) Set the PICTURE and BRIGHTNESS to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G, and B of the C board cathode to the oscilloscope.
4) Adjust G2 (RV701) volume to the value below.



2. WHITE BALANCE ADJUSTMENTS

1) Set the Service Mode.
2) Input an entire white signal.
3) Set the PICTURE to maximum.
4) Select RDR(09) with 1 and 4, and then set the level to 25 with 3 and 6.
5) Select GDR(0A) and BDR(0B) with 1 and 4 and adjust the level with 3 and 6 for the best white balance.
6) Write into the memory by pressing MUTE → then 0.

SECTION 4
CIRCUIT ADJUSTMENTS

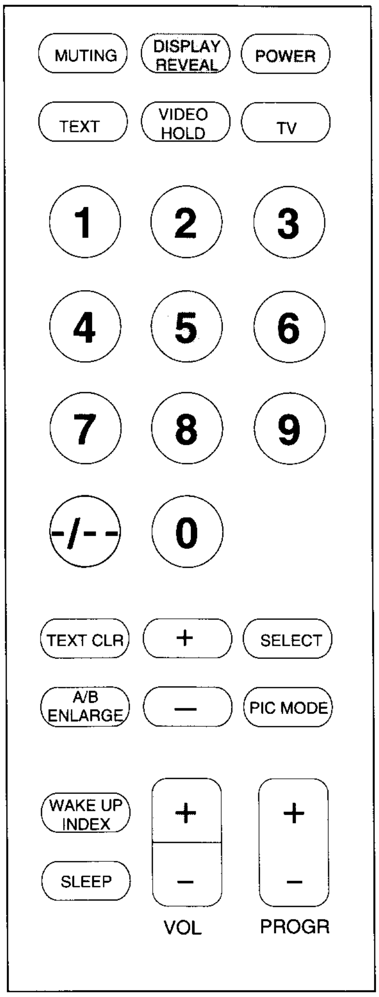
4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments are made with the RM-870 that comes with this unit.

Entering service mode

With the unit on standby
↓
"DISPLAY"
↓
"5"
↓
"VOL (+)"
↓
"POWER"

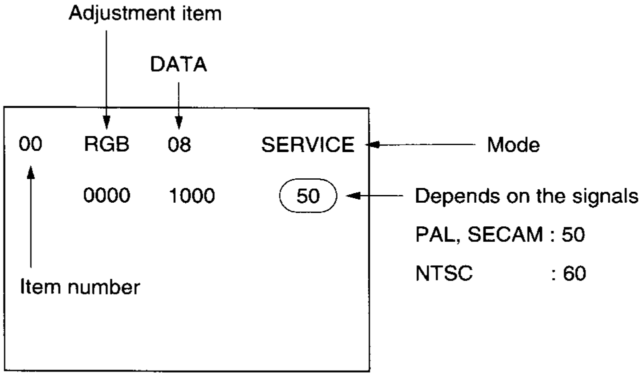
The operation sequence puts the unit into service mode.


MUTING
DISPLAY REVEAL
POWER
TEXT
VIDEO HOLD
TV
1
2
3
4
5
6
7
8
9
-/--
0
TEXT CLR
+
SELECT
A/B ENLARGE
—
PIC MODE
WAKE UP INDEX
SLEEP
+
–
+
–
VOL
PROGR

"1", "4"	Raise/lower the service item number
"3", "6"	Raise/lower the data
"MUTING"	Writes
"0"	Executes the writing

"7", "0"	The data all becomes the values in memory
"8", "0"	User control all goes to the standard state
"5", "0"	Service data initialization (Be sure not to use usually.)
"2", "0"	Write 50Hz adjustment data to 60Hz, or viceversa.

The screen display is :


Adjustment item
DATA
00
RGB
08
SERVICE
Mode
0000
1000
50
Depends on the signals
PAL, SECAM : 50
NTSC : 60
Item number

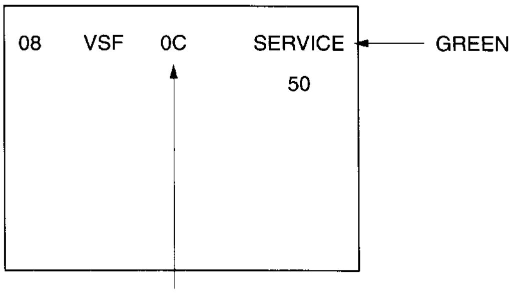
"1", "4" Select the adjustment item.
↓
"3", "6" Raise/lower the data.
↓
"MUTING" Writes
↓
"0" Executes the writing.

4-2. ADJUSTMENT METHOD

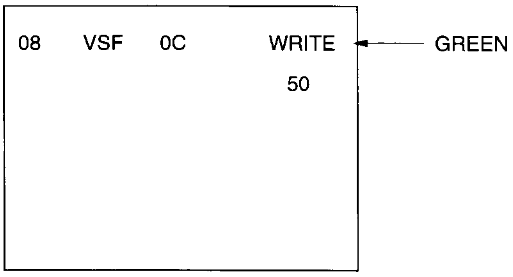
Item Number 08

This explanation uses V-SHIFT as an example.

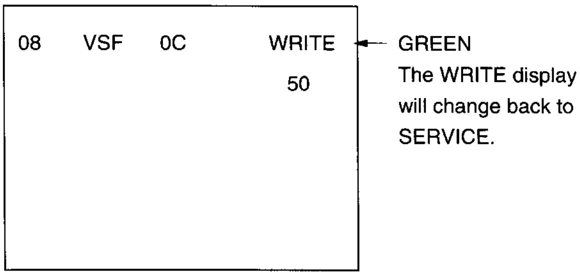
1. Select 08 V-SHIFT with the "1" and "4" buttons.
2. Raise/lower the data with the "3" and "6" buttons.
3. Select the optimum state. (The standard is 0F for PAL reception.)
4. Write with the MUTE button. (The SERVICE display will change to WRITE)
5. Execute the writing with the "0" button. (The WRITE display will change back to SERVICE.)



Adjusted with "3" and "6" buttons



Written with "MUTE"



The WRITE display will change back to SERVICE.

Write executed with "0"

Use the same method for Items Number 00-2C. Use "1" and "4" to select the adjustment item, use "3" and "6" to adjust, write with "MUTE", then execute the write with "0".

Adjustment Item Table

Item number	Adjustment Item	Data range	Initial data	Standard data	Note	Device
00	HSF	00–3F	2B	50: 60:	H SHIFT	(TDA8366)
01	HSZ	00–3F	23	50: 60:	H SIZE	(TDA8366)
02	PAP	00–3F	21	50: 60:	PIN AMPLITUDE	(TDA8366)
03	CNP	00–3F	29	50: 60:	CORNER PIN	(TDA8366)
04	TLT	00–3F	20	50: 60:	TILT	(TDA8366)
05	VSL	00–3F	20	50: 60:	V SLOPE	(TDA8366)
06	VAP	00–3F	1D	50: 60:	V AMPLITUDE	(TDA8366)
07	SCR	00–3F	20	50: 60:	S CORRECTION	(TDA8366)
08	VSF	00–3F	20	50: 60:	V SHIFT	(TDA8366)
09	RDR	00–3F	2A		WHITE POINT R	(TDA8366)
0A	GDR	00–3F	20		WHITE POINT G	(TDA8366)
0B	BDR	00–3F	20		WHITE POINT B	(TDA8366)
0C	YDL	00–0F	00		Y DELAY ADJUSTMENT	(TDA8366)
0D	FO	00–02	00	TV: 00 VIDEO: 01 TEXT: 01	PHI-1 TIME CONSTANT	(TDA8366)
0E	AGC	00–3F	06	TV: VIDEO:	AGC TAKE OVER	(TDA8366)
0F	VSW	00–01	00	TV: VIDEO:	VIDEO MUTE	(TDA8366)
10	FOR	00–03	00		FORCED FIELD FREQ.	(TDA8366)
11	DL	00–01	00		INTERLACE	(TDA8366)
12	POC	00–01	00		SYNCHRONISATION	(TDA8366)
13	NCI	00–01	00	50: 60:	V DIVIDER MODE	(TDA8366)
14	VID	00–01	00	50: 60:	VIDEO IDENT MODE	(TDA8366)
15	HCO	00–01	00	50: 60:	EHT TRACKING MODE	(TDA8366)
16	EVG	00–01	00	50: 60:	ENABLE V GUARD	(TDA8366)
17	SBL	00–01	00	50: 60:	SERVICE BLANKING	(TDA8366)
18	PRD	00–01	00	50: 60:	OVER-VOLTAGE INPUT	(TDA8366)
19	EXP	00–03	00		V DEFLECTION MODE	(TDA8366)
1A	SFM	00–01	01		H FREQ. DURING SWON	(TDA8366)
1B	PHL	00–01	00		COLOR X-TAL PLL	(TDA8366)
1C	COR	00–01	00		NOISE CORING PEAK	(TDA8366)
1D	PMX	00–3F	33		PICTURE MAX DATA	(TDA8366)
1E	SBR	00–7F	4B		SUB-BRIGHTNESS	(TDA8366)
1F	SHU	00–0F	07		SUB-HUE	(TDA8366)
20	SSH	00–03	01	TV: 01 VIDEO: 03	SUB-SHARPNESS	(TDA8366)
21	SCL	00–3F	3F	50: 60:	SUB-COLOR	(TDA8366)
22	TXP	00–0F	0A		Text Picture cont.	(SAA5281)
23	MXP	00–0F	0B		Text Mix mode Pic.	(SAA5281)
24	BKP	00–3F	00		Blk off Picture	(CXP85200)
25	ODL	00–FF	10		Power ON Delay	(CXP85200)
26	OFR	00–0F	00		Remo. con. RGB OUT	(CXP85200)
27	OFM	00–0F	00		Main power RGB OUT	(CXP85200)
28	OSH	00–3F	0A		OSD Position H	(CXP85200)
29	MUT	00–01	01		No Sync. Mute	(CXP85200)
2A	ABL	00–01	01		Bright ABL	(CXP85200)
2B	OP0	00–FF	40		Option 0	(CXP85200)
2C	OP1	00–FF	07		Option 1	(CXP85200)

※ 50 ··· 50Hz data 60 ··· 60Hz data

※ Standard data listed on the Adjustment Item Table are reference values, therefore differ per model.

No. 2B OP0 * Input data are different according to models

Item	–	AV Input		–	–	–	–	Saudi
Normal	0	1	0	0	0	0	0	0

No. 2C OP1

Item	–	–	–	TV System		NTSC	SECAM	Chin
Normal	0	0	0	0	0	1	1	1

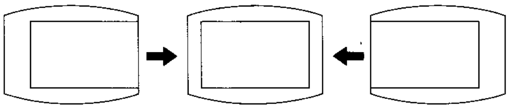
4-3. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons “5” and “0” (Data Initialize), and “2” and “0” (Data Copy) to initialize the data.
3. Call each item number, and check if the respective screen shows the normal picture.
   In case some items are not well-adjusted, give them fine adjustment.
   Write the data per each item number (MUTE + 0).
4. Select item numbers “2B” (OP0) and “2C” (OP1) and respectively set the bit per model with command buttons “3” and “6”.
5. Press commander buttons “8” and “0” (Test Normal) to return to the data that was set on the shipment from the factory.
   (= Cancel Service Mode.)

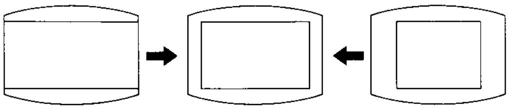
4-4. PICTURE DISTORTION ADJUSTMENT

Item Number 00 – 08

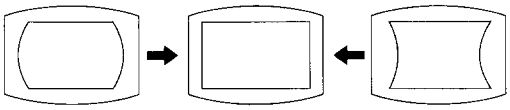
00 HSF (H SHIFT)



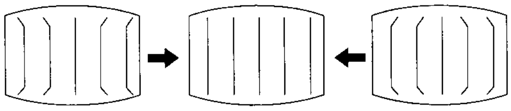
01 HSZ (H SIZE)



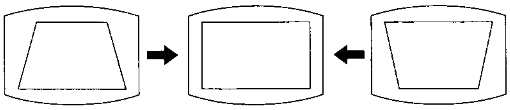
02 PAP (PIN AMPLITUDE)



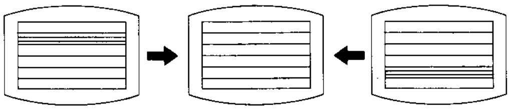
03 CNP (CORNER PIN)



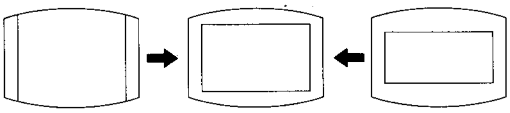
04 TLT (TILT)



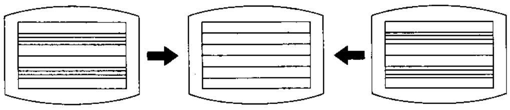
05 VSL (V SLOPE)



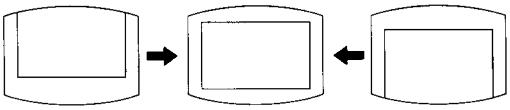
06 VAP (V AMPLITUDE)



07 SCR (S CORRECTION)



08 VSF (V SHIFT)



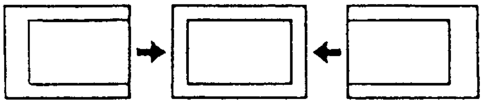
4-3. A BOARD, ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons “5” and “0” (Data Initialize), and “2” and “0” (Data Copy) to initialize the data.
3. Call each item number, and check if the respective screen shows the normal picture.
   In case some items are not well-adjusted, give them fine adjustment.
   Write the data per each item number (MUTE + 0).
4. Select item numbers “2A” (OP0) and “2B” (OP1) for mono, and 3F (OP0) and “40” (OP1) for STEREO, and respectively set the bit per model with command buttons “3” and “6”.
5. Press commander buttons “8” and “0” (Test Normal) to return to the data that was set on the shipment from the factory.
   (= Cancel Service Mode.)

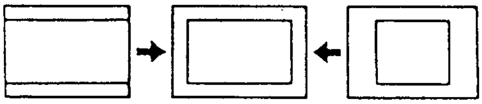
4-4. PICTURE DISTORTION ADJUSTMENT

Item Number 00 – 08

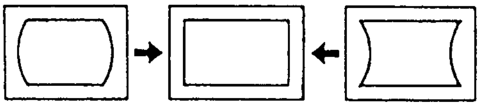
00 HSF (H.SHIFT)



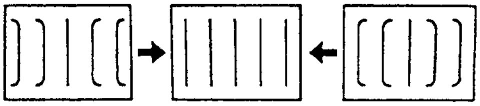
01 HSZ (H SIZE)



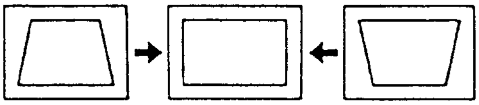
02 PAP (PIN AMP)



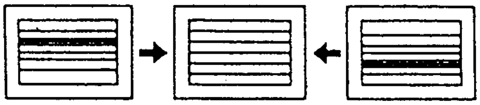
03 CNP (CORNER PIN)



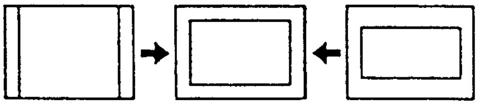
04 TLT (TILT)



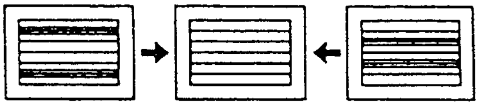
05 VSL (V SLOP)



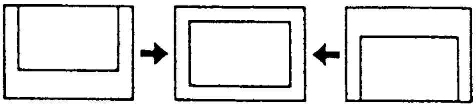
06 VAP (V AMP)



07 SCR (S CORRECTION)



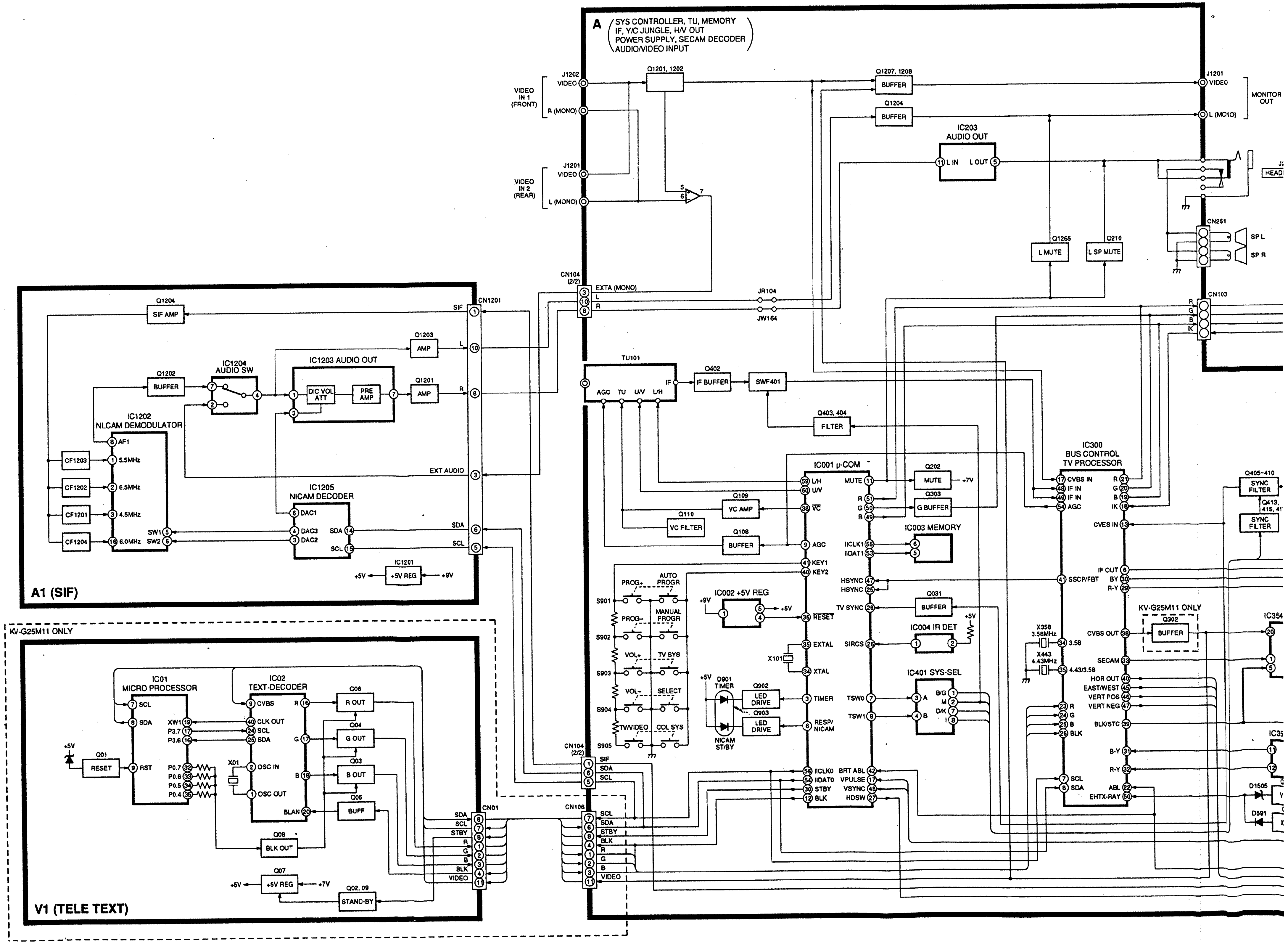
08 VSF (V SHIFT)

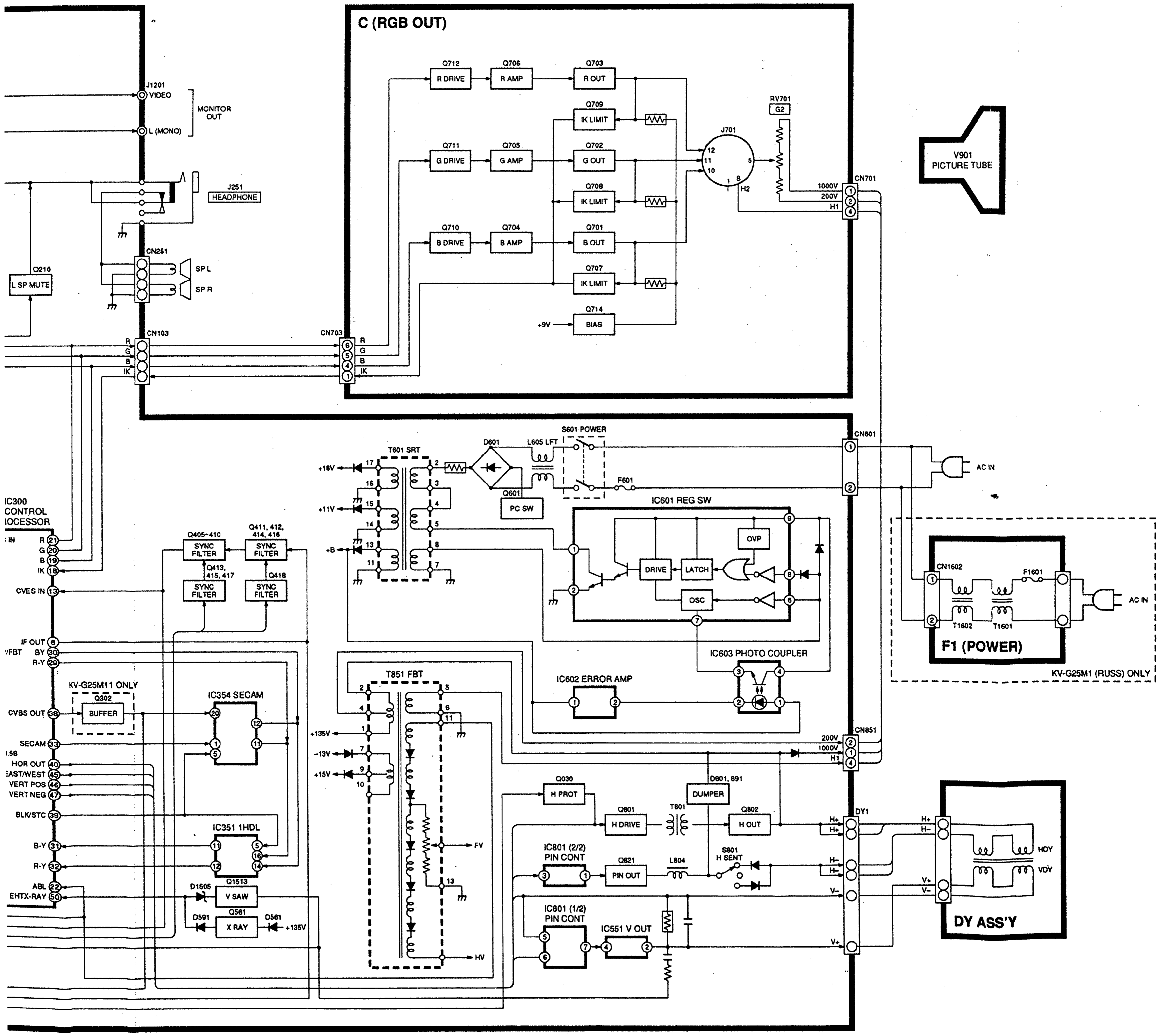


MEMO

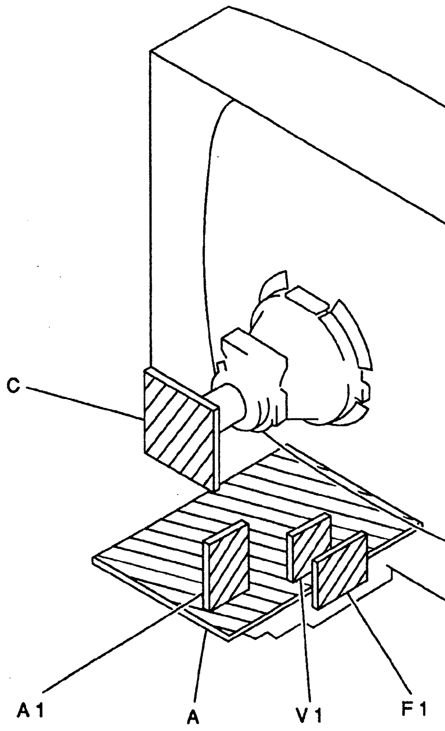
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS


A
SYS CONTROLLER, TU, MEMORY
IF, Y/C JUNGLE, H/V OUT
POWER SUPPLY, SECAM DECODER
AUDIO/VIDEO INPUT
VIDEO IN 1 (FRONT)
J1202 VIDEO
R (MONO)
VIDEO IN 2 (REAR)
J1201 VIDEO
L (MONO)
Q1201, 1202
Q1207, 1208 BUFFER
Q1204 BUFFER
J1201 VIDEO
L (MONO)
MONITOR OUT
IC203 AUDIO OUT
L IN
L OUT
Q1265 L MUTE
Q210 L SP MUTE
CN251
SP L
SP R
CN103
R G B IK
CN104 (2/2)
EXTA (MONO)
L
R
JR104
JW164
TU101
AGC TU U/V L/H
IF
Q402 IF BUFFER
SWF401
Q403, 404 FILTER
IC001 µ-COM
L/H
U/V
VC
AGC
KEY1
KEY2
RESET
EXTAL
XTAL
TIMER
RESP/NICAM
MUTE
R G B
IICLK1
IIDAT1
HSYNC
TV SYNC
SIRCS
TSW0
TSW1
IICLK0
IIDAT0
STBY
BLK
BRT ABL
VPULSE
VSYNC
HDSW
Q109 VC AMP
Q110 VC FILTER
Q108 BUFFER
Q202 MUTE
+7V
Q303 G BUFFER
IC003 MEMORY
Q031 BUFFER
IC004 IR DET
+5V
IC401 SYS-SEL
A
B
B/G
M
DK
I
X101
IC002 +5V REG
+9V
+5V
S901 PROG+ AUTO PROGR
S902 PROG− MANUAL PROGR
S903 VOL+ TV SYS
S904 VOL− SELECT
S905 TV/VIDEO COL SYS
D901 TIMER
Q902 LED DRIVE
Q903 LED DRIVE
NICAM ST/BY
IC300 BUS CONTROL TV PROCESSOR
CVBS IN
IF IN
IF IN
AGC
R G B IK
CVES IN
IF OUT
SSCP/FBT
BY
R-Y
X358 3.58MHz
X443 4.43MHz
3.58
4.43/3.58
CVBS OUT
SECAM
HOR OUT
EAST/WEST
VERT POS
VERT NEG
BLK/STC
R G B BLK
B-Y
R-Y
SCL
SDA
ABL
EHTX-RAY
KV-G25M11 ONLY
Q302 BUFFER
Q405-410 SYNC FILTER
Q413, 415, 41
SYNC FILTER
IC354
IC35
D1505
D591
HEAD
A1 (SIF)
Q1204 SIF AMP
CN1201
SIF
L
R
EXT AUDIO
SDA
SCL
Q1203 AMP
Q1201 AMP
Q1202 BUFFER
IC1204 AUDIO SW
IC1203 AUDIO OUT
DIC VOL ATT
PRE AMP
IC1202 NLCAM DEMODULATOR
AF1
5.5MHz
6.5MHz
4.5MHz
6.0MHz
SW1
SW2
CF1203
CF1202
CF1201
CF1204
IC1205 NICAM DECODER
DAC1
DAC3
DAC2
SDA
SCL
IC1201 +5V REG
+5V
+9V
KV-G25M11 ONLY
V1 (TELE TEXT)
IC01 MICRO PROCESSOR
SCL
SDA
RST
XW1
P3.7
P3.6
P0.7
P0.6
P0.5
P0.4
Q01 RESET
+5V
IC02 TEXT-DECODER
CVBS
CLK OUT
SCL
SDA
OSC IN
OSC OUT
BLAN
R G B
X01
Q06 R OUT
Q04 G OUT
Q03 B OUT
Q05 BUFF
Q08 BLK OUT
Q07 +5V REG
+5V
+7V
Q02, 09 STAND-BY
CN01
SDA SCL STBY R G B BLK VIDEO
CN104 (2/2)
SIF SDA SCL
CN106
SCL SDA STBY BLK R G B VIDEO


C (RGB OUT)
Q712
R DRIVE
Q706
R AMP
Q703
R OUT
Q709
IK LIMIT
Q711
G DRIVE
Q705
G AMP
Q702
G OUT
Q708
IK LIMIT
Q710
B DRIVE
Q704
B AMP
Q701
B OUT
Q707
IK LIMIT
Q714
BIAS
+9V
J701
RV701
G2
1000V
200V
H1
H2
CN701
V901
PICTURE TUBE
J1201
VIDEO
L (MONO)
MONITOR OUT
J251
HEADPHONE
CN251
SP L
SP R
Q210
L SP MUTE
CN103
CN703
R
G
B
IK
IC300
CONTROL
PROCESSOR
IN
CVES IN
IF OUT
FBT
BY
R-Y
KV-G25M11 ONLY
Q302
BUFFER
CVBS OUT
SECAM
HOR OUT
EAST/WEST
VERT POS
VERT NEG
BLK/STC
B-Y
R-Y
ABL
EHTX-RAY
Q405-410
SYNC FILTER
Q411, 412, 414, 416
Q413, 415, 417
Q418
IC354 SECAM
IC351 1HDL
Q1513
V SAW
D1505
D591
Q561
X RAY
D561
+135V
T601 SRT
+18V
+11V
+B
D601
Q601
PC SW
L605 LFT
S601 POWER
F601
IC601 REG SW
DRIVE
LATCH
OVP
OSC
IC603 PHOTO COUPLER
IC602 ERROR AMP
CN601
AC IN
CN1602
F1601
T1602
T1601
F1 (POWER)
KV-G25M1 (RUSS) ONLY
T851 FBT
+135V
-13V
+15V
FV
HV
CN851
Q030
H PROT
D801, 891
DUMPER
Q801
H DRIVE
T801
Q802
H OUT
IC801 (2/2)
PIN CONT
Q821
PIN OUT
L804
S801
H SENT
IC801 (1/2)
PIN CONT
IC551 V OUT
DY1
H+
H-
V+
V-
HDY
VDY
DY ASS'Y

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ = 100Ω, MΩ = 1000kΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)
- FW : nonflammable resistor.
- △ : internal component.
- ☐ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Readings are taken with a color-bar signal input.
  no mark : PAL
  ( ) : SECAM
  ⟨ ⟩ : NTSC 4.43
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- * : Can not be measured.
- Circled numbers are waveform reference.
- ━━━ : B + bus.
- ━ ━ ━ : B – bus.
- ➡ : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFRAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

PRINTED WIRING BOARD

A [SYS CONTROLLER, TU, MEMORY, IF, Y/C JUNGLE
H/V OUT, POWER SUPPLY, SECAM DECODER, AUDIO/VIDEO INPUT]

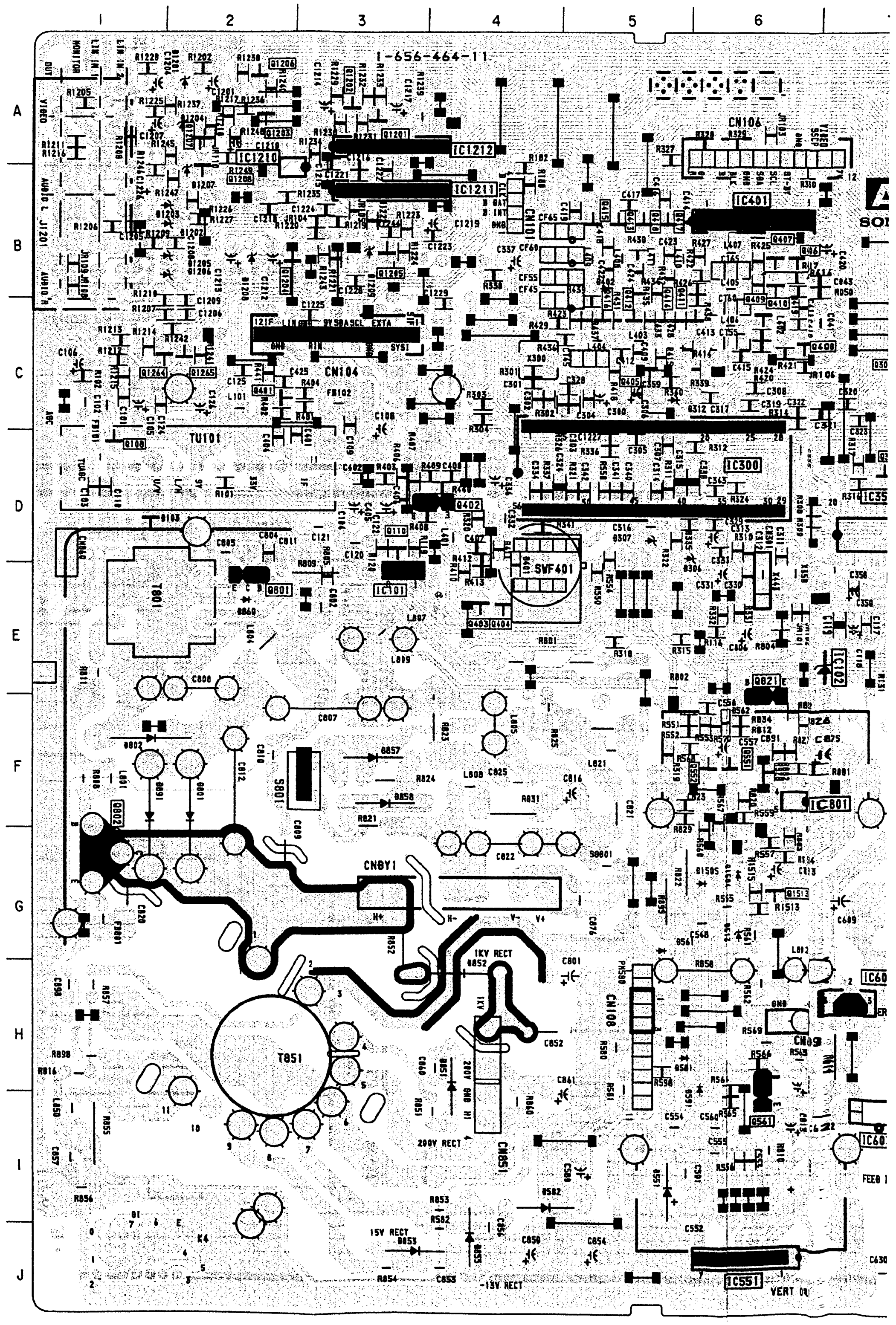
A BOARD

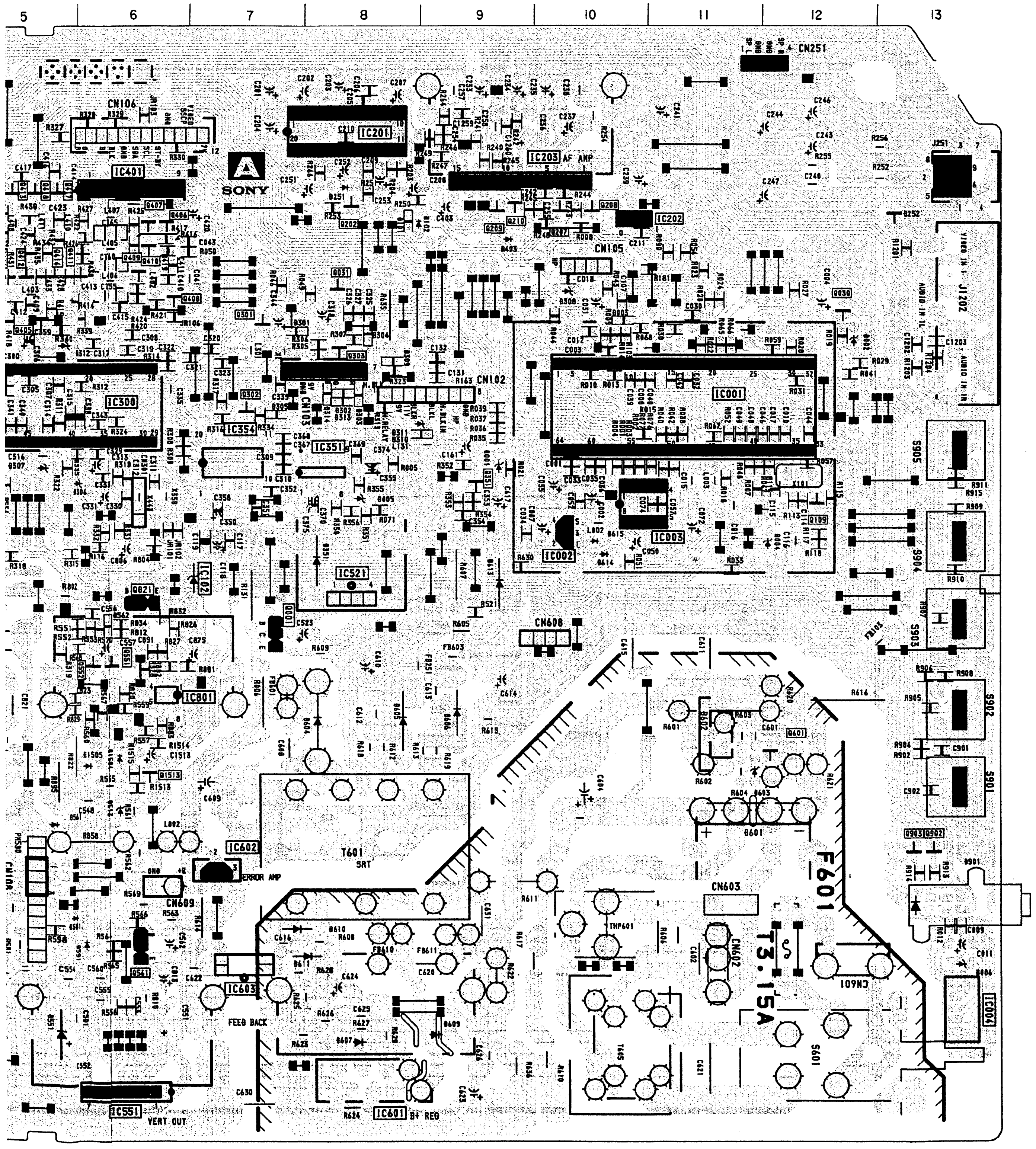
IC	
IC001	D-11
IC002	E-10
IC003	E-11
IC004	I-13
IC102	E-7
IC203	B-10
IC300	D-6
IC351	D-8
IC354	D-7
IC401	B-6
IC521	E-8
IC551	J-6
IC601	J-8
IC602	H-7
IC603	I-7
IC801	F-6
IC1210	A-2

TRANSISTOR	
Q030	C-12
Q031	C-8
Q108	D-1
Q109	E-12
Q110	D-3
Q202	B-8
Q207	B-10
Q208	B-10
Q210	B-9
Q301	C-7
Q302	D-7
Q303	C-8
Q402	D-4
Q403	E-4
Q404	E-4
Q405	C-5
Q406	B-6
Q407	B-6
Q408	C-6
Q409	C-6
Q410	B-6
Q411	C-6
Q412	C-5
Q413	B-5
Q414	C-5
Q415	B-5
Q416	C-5
Q417	B-5
Q418	B-5
Q561	I-6
Q601	G-12
Q801	E-2
Q802	G-1
Q821	E-6
Q902	H-13
Q903	H-13
Q1201	A-3
Q1202	A-3
Q1203	A-2
Q1204	B-2
Q1207	A-2
Q1208	B-2
Q1265	C-2
Q1513	G-6

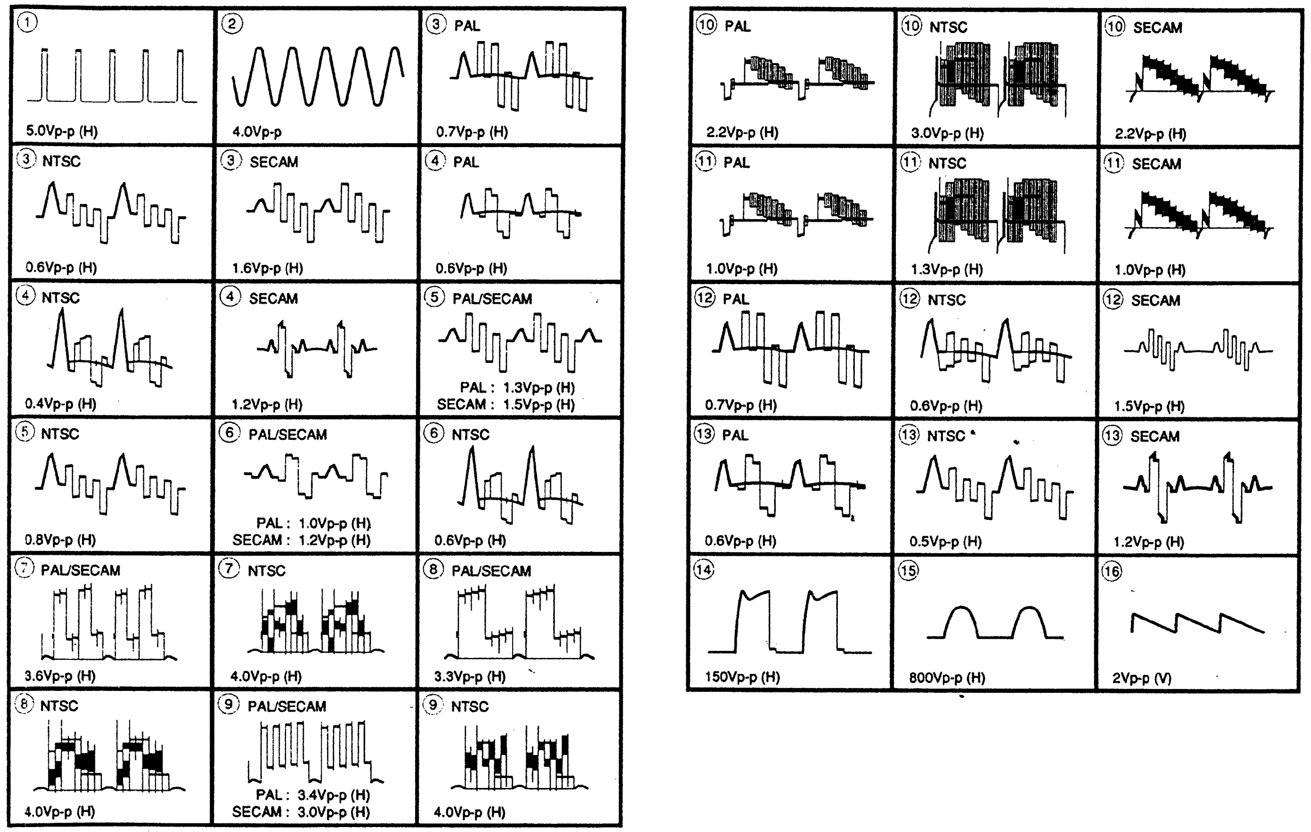
DIODE	
D001	D-9
D002	C-12
D003	C-10
D004	E-12
D005	E-8
D101	B-8
D102	B-9
D103	D-1
D251	B-8
D252	B-13
D301	C-7
D302	D-8
D303	D-8
D304	C-8
D305	D-7
D306	D-6
D307	D-5
D308	C-10
D310	D-8
D311	D-8
D312	C-5
D313	D-8
D314	D-8
D351	E-8
D401	D-4
D402	B-5
D403	B-9
D513	G-6
D551	I-5
D561	G-5
D591	H-6
D601	G-11
D602	G-11
D603	G-11
D604	G-8
D605	G-8
D606	F-9
D607	I-8
D609	I-9
D610	H-7
D611	I-8
D801	F-2
D802	F-1
D851	H-4
D852	H-4
D853	J-3
D855	J-4
D857	F-3
D858	F-3
D860	E-2
D891	F-1
D901	H-13
D1201	A-2
D1202	B-2
D1207	B-2
D1208	B-2
D1504	G-6
D1505	G-6

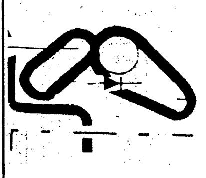
– A Board –




5
6
7
8
9
10
11
12
13
CN106
IC401
A
SONY
IC201
IC203 AF AMP
CN251
J251
CN105
IC202
IC300
IC354
IC351
CN102
IC001
IC002
IC003
IC521
CN608
IC102
IC801
IC602
ERROR AMP
T601
SRT
CN609
IC603
FEED BACK
IC551
VERT OUT
IC601 B+ REG
CN603
CN602
F601
T3.15A
CN601
S601
VIDEO IN J1202
AUDIO IN
S905
S904
S903
S902
S901
IC004

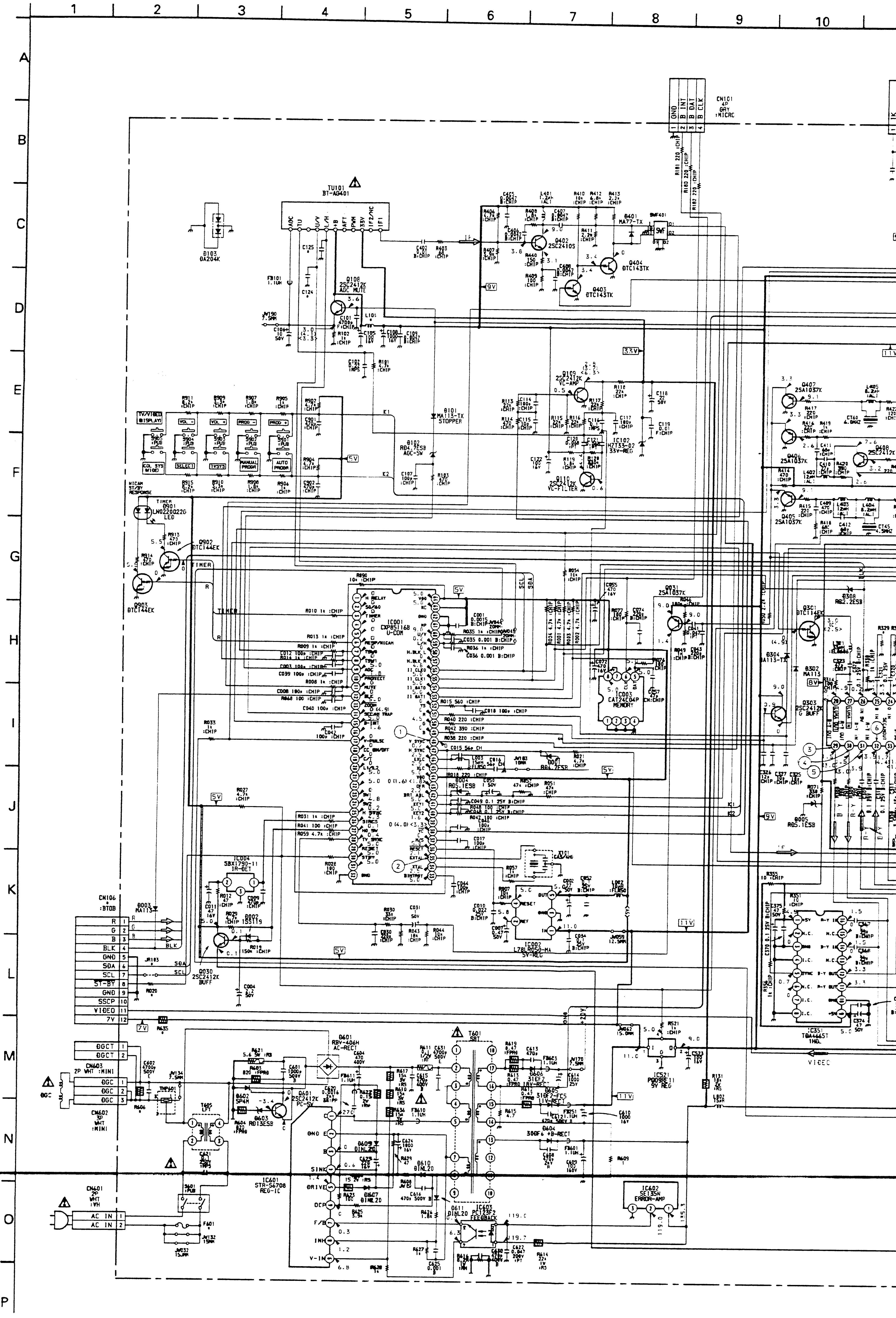
A BOARD WAVEFORMS



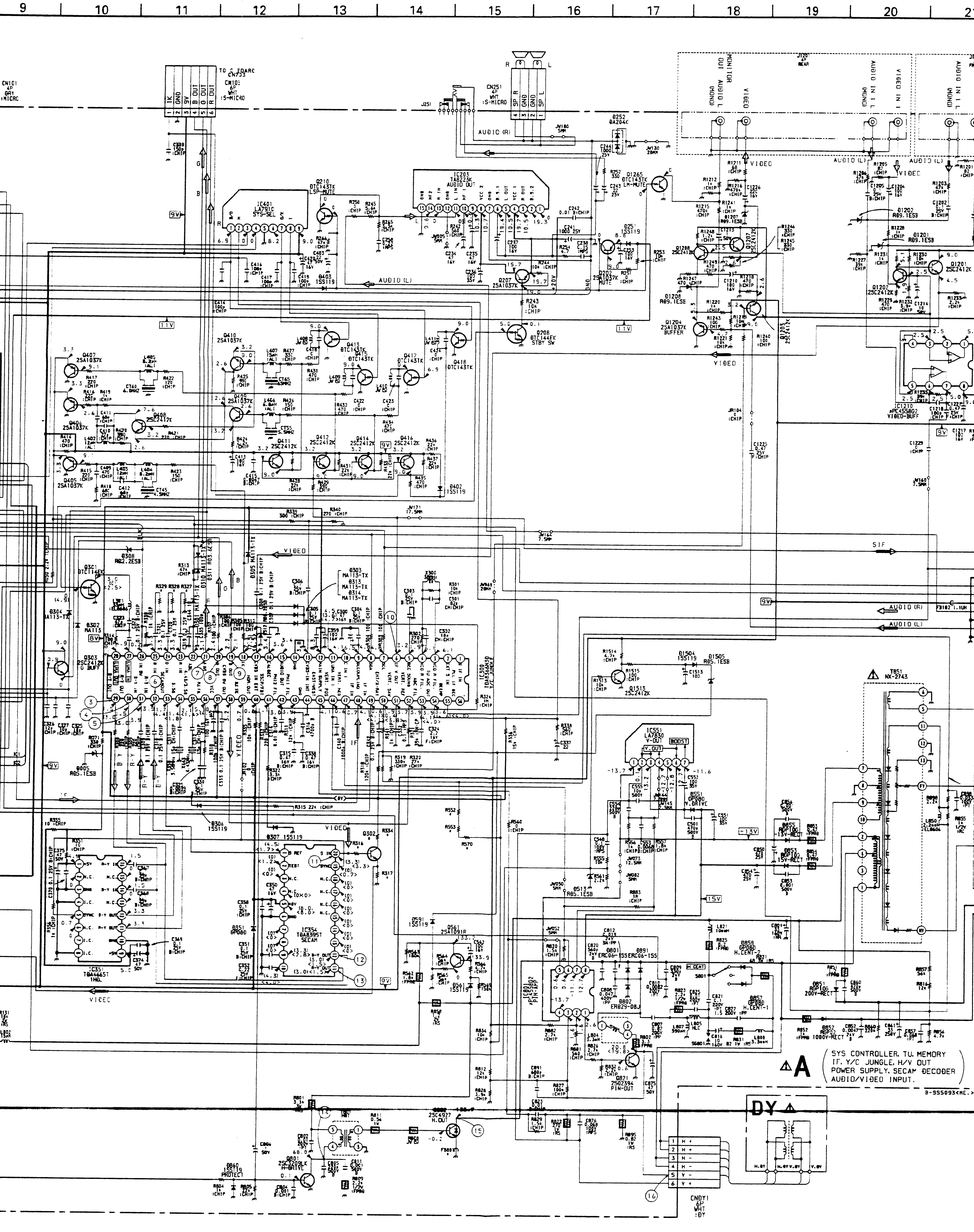


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

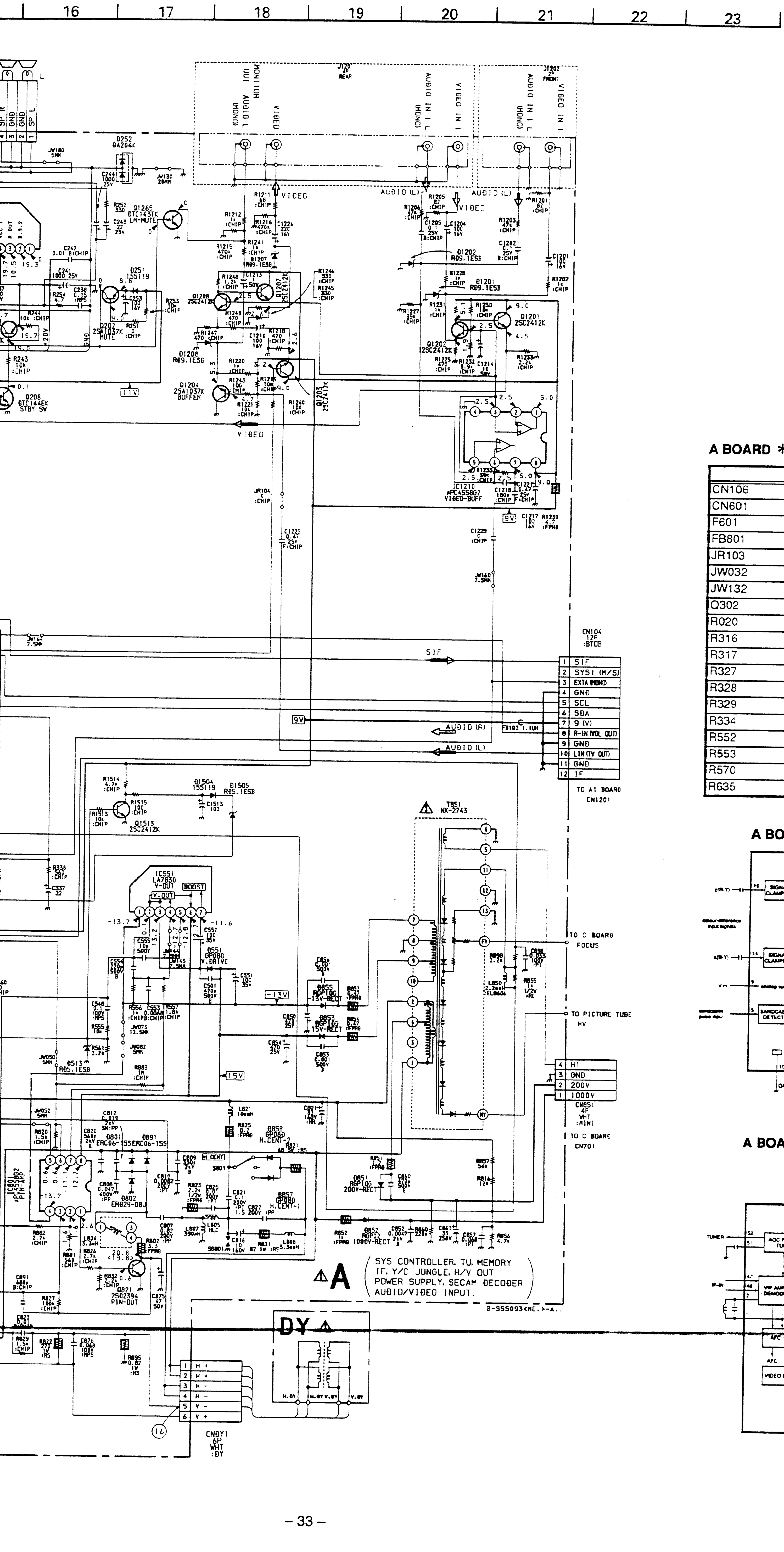
(1) Schematic Diagram of A Board



TU101
BT-AG401
D103
DA204K
Q106
2SC2412K
AGC MUTE
Q402
2SC2410S
Q404
DTC143TK
Q403
DTC143TK
D401
MA77-TX
SWF401
CN101
4P
GRY
:MICRC
GND
B INT
B DAT
B CLK
Q109
2SC2412K
VC-AMP
Q110
2SC2412K
VC-FILTER
IC102
HZ7T33-02
33V-REG
D101
MA113-TX
STOPPER
D102
RD4.7ESB
AGC-SW
Q407
2SA1037K
Q406
2SA1037K
Q405
2SA1037K
Q408
2SC2412K
TV/VIDEO
DISPLAY
VOL -
VOL +
PROG -
PROG +
COL SYS
WIDE
SELECT
TVSYS
MANUAL
PROGR
AUTO
PROGR
TIMER
D901
LN0220022G
LED
Q902
DTC144EK
Q903
DTC144EK
NICAM
ST/BY
RESPONSE
IC001
CXP85116B
U-COM
IC003
CAT24C04P
MEMORY
Q031
2SA1037K
Q301
DTC114EK
D304
MA113-TX
D302
MA113
Q303
2SC2412K
G BUFF
D005
RD5.1ESB
IC004
SBX1790-11
IR-DET
D002
1SS119
Q030
2SC2412K
BUFF
IC002
L78LR05D-MA
5V-REG
CN106
:BTOB
R
G
B
BLK
GND
SDA
SCL
ST-BY
GND
SSCP
VIDEO
7V
D003
MA113
DGCT
CN603
2P WHT :MINI
DGC
CN602
3P
WHT
:MINI
D601
RBV-406H
AC-RECT
Q601
2SC2412K
PC-SW
D602
SP4M
D603
RD13ESB
T605
LFT
T601
SRT
IC601
STR-S6708
REG-IC
IC603
PC123F2
FEEDBACK
IC602
SE135N
ERROR-AMP
IC521
PQ09RE11
9V REG
CN601
2P
WHT
:VH
AC IN
F601
IC351
TDA4665T
1HDL


9
10
11
12
13
14
15
16
17
18
19
20
CN101 4P GRY :MICRO
CN103 6P WHT :S-MICRO
CN251 4P WHT :S-MICRO
J251
J1201 4P REAR
MONITOR OUT AUDIO L (MONO)
VIDEO
AUDIO IN L (MONO)
VIDEO IN 1
AUDIO (R)
AUDIO (L)
VIDEO
IC401 LA7910 SYS-SEL
Q210 DTC143TK LSP-MUTE
IC203 TA8223K AUDIO OUT
Q1265 DTC143TK LM-MUTE
Q252 DA204K
Q251 1SS119
Q202 2SA1037K MUTE
Q207 2SA1037K
Q208 DTC144EK STBY SW
Q403 1SS119
Q1208 2SC2412K
Q1207 2SC2412K
Q1206 RB9.1ESB
Q1204 2SA1037K BUFFER
Q1203 2SC2412K
Q1201 2SC2412K
Q1202 2SC2412K
IC1210 uPC4558G2 VIDEO-BUFF
Q407 2SA1037K
Q406 2SA1037K
Q405 2SA1037K
Q408 2SC2412K
Q410 2SA1037K
Q409 2SA1037K
Q411 2SC2412K
Q412 2SC2412K
Q413 DTC143TK
Q414 2SC2412K
Q416 2SC2412K
Q417 DTC143TK
Q418 DTC143TK
Q402 1SS119
Q301 DTC114EK
Q302 MA113
Q303 2SC2412K G BUFF
Q304 MA113-TX
Q305 RB5.1ESB
Q308 RB2.2ESB
IC300 TDA8362A/ESO Y/C JUNGLE
X300
SIF
IC351 TDA4665T 1HD
IC354 TDA8395T SECAM
Q306 1SS119
Q307 1SS119
Q302 2SC2412K
Q351 GP08D
IC551 LA7830 V-OUT
BOOST
Q1513 2SC2412K
Q1504 1SS119
Q1505 RB5.1ESB
TB51 NX-2743
Q551 GP08D V.DRIVE
Q561 2SA1091R
Q591 1SS119
Q513 RB5.1ESB
IC801 PIN-AMP
Q801 ERC06-15S
Q891 ERC06-15S
Q802 ER829-08J
Q871 2SD2394 PIN-OUT
Q859 GP08D H.CENT-2
Q857 GP08D H.CENT-1
Q851 RGP10G 200V-RECT
Q853 RGP10G 15V-RECT
Q855 RGP10G -13V-RECT
2SC4927 H.OUT
Q801 2SC3209LK H-DRIVE
Q840 1SS119 PROTECT
DY
CNDY1 6P WHT :DY
H+
H+
H-
H-
V-
V+
H.DY
H.DYV.DY
V.DY
9V
11V
15V
-13V
B-SS5093<ME.>

SYS CONTROLLER, TU MEMORY
IF, Y/C JUNGLE, H/V OUT
POWER SUPPLY, SECAM DECODER
AUDIO/VIDEO INPUT.


16
17
18
19
20
21
22
23
J1201 4P REAR
MONITOR OUT AUDIO L (MONO)
VIDEO
AUDIO IN L (MONO)
VIDEO IN 1
J1202 2P FRONT
AUDIO IN L (MONO)
VIDEO IN 1
Q1265 DTC143TK LM-MUTE
Q1207 2SC2412K
Q1208 2SC2412K
Q1204 2SA1037K BUFFER
Q1202 2SC2412K
Q1201 2SC2412K
IC1210 μPC4558G2 VIDEO-BUFF
Q208 DTC144EK STBY SW
CN104 12P :BTCB
1 SIF
2 SYSI (H/S)
3 EXTA MONO
4 GND
5 SCL
6 SDA
7 9 (V)
8 R-IN (VOL OUT)
9 GND
10 LIN (TV OUT)
11 GND
12 IF
TO A1 BOARD CN1201
T851 NX-2743
IC551 LA7830 V-OUT
TO C BOARD FOCUS
TO PICTURE TUBE HV
4 HI
3 GND
2 200V
1 1000V
CN851 4P WHT :MINI
TO C BOARD CN701
IC801 μPC1094C2 PIN-AMP
Q821 2SD2394 PIN-OUT
DY
1 H+
2 H+
3 H-
4 H-
5 Y-
6 Y+
CNDY1 6P WHT :DY
B-SS5093<ME.>-A..

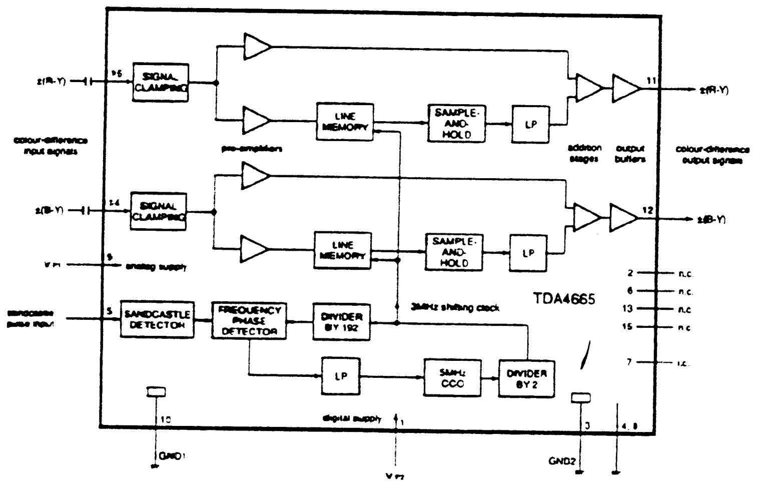
A

SYS CONTROLLER, TU. MEMORY
IF. Y/C JUNGLE, H/V OUT
POWER SUPPLY, SECAM DECODER
AUDIO/VIDEO INPUT.

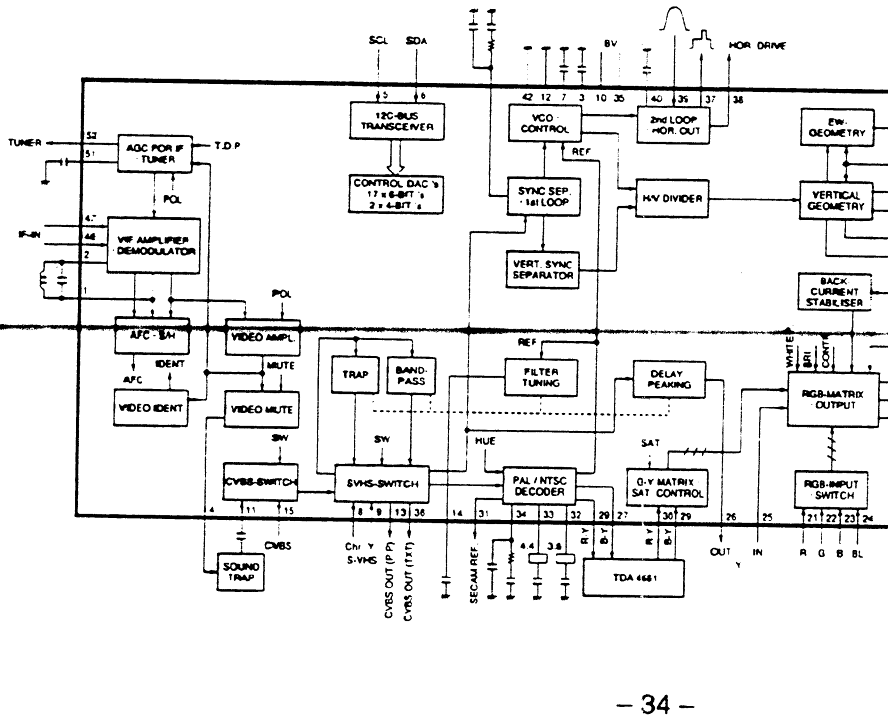
A BOARD ✱ MARK LIST

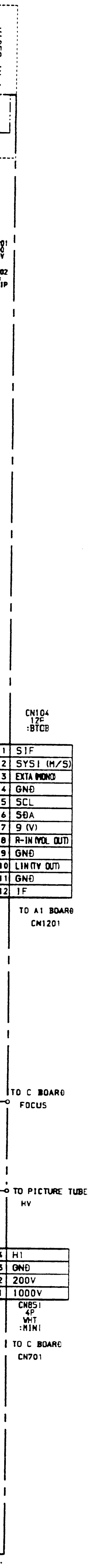
	KV-G25M1(ME)	KV-G25M1(HK)	KV-G25M1(
CN106	NOT USED	NOT USED	NOT US
CN601	TO POWER CORD	TO POWER CORD	TO F1 BOARD
F601	T3.15A	T3.15A	NOT US
FB801	1.1uH	1.1uH	1.9uH
JR103	NOT USED	NOT USED	NOT US
JW032	NOT USED	NOT USED	15MM
JW132	NOT USED	NOT USED	15MM
Q302	NOT USED	NOT USED	NOT US
R020	NOT USED	NOT USED	NOT US
R316	NOT USED	NOT USED	NOT US
R317	NOT USED	NOT USED	NOT US
R327	0 : CHIP	0 : CHIP	0 : CHIP
R328	0 : CHIP	0 : CHIP	0 : CHIP
R329	0 : CHIP	0 : CHIP	0 : CHIP
R334	NOT USED	NOT USED	NOT US
R552	NOT USED	NOT USED	220K : CHIP
R553	NOT USED	NOT USED	0 : CHIP
R570	NOT USED	NOT USED	0 : CHIP
R635	NOT USED	NOT USED	NOT US

A BOARD IC351 TDA4665T


SIGNAL CLAMPING
LINE MEMORY
SAMPLE-AND-HOLD
LP
SANDCASTLE DETECTOR
FREQUENCY PHASE DETECTOR
DIVIDER BY 192
DIVIDER BY 2
TDA4665
colour-difference input signals
colour-difference output signals

A BOARD IC300 TDA8366N3D

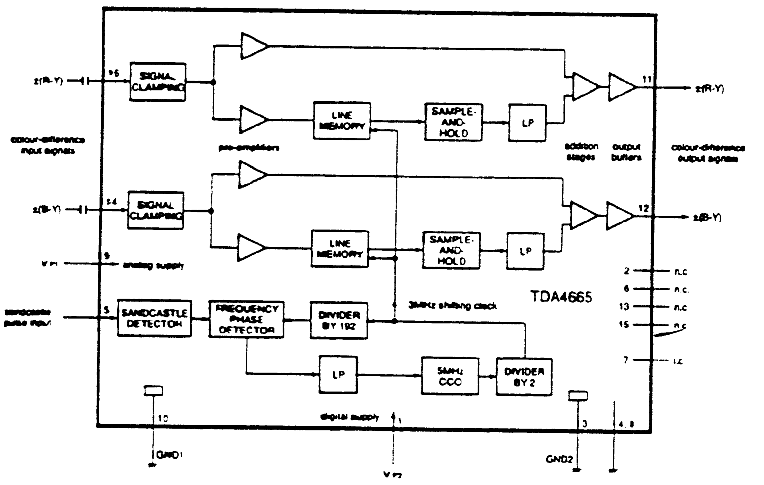

SCL
SDA
HOR DRIVE
TUNER
AGC FOR IF TUNER
I2C-BUS TRANSCEIVER
CONTROL DAC's
VCO CONTROL
2nd LOOP HOR. OUT
EW-GEOMETRY
SYNC SEP. 1st LOOP
H/V DIVIDER
VERTICAL GEOMETRY
VIF AMPLIFIER DEMODULATOR
VERT. SYNC SEPARATOR
BACK CURRENT STABILISER
AFC-SW
VIDEO AMPL.
TRAP
BAND-PASS
FILTER TUNING
DELAY PEAKING
VIDEO IDENT
VIDEO MUTE
RGB-MATRIX OUTPUT
CVBS-SWITCH
SVHS-SWITCH
PAL / NTSC DECODER
O-Y MATRIX SAT CONTROL
RGB-INPUT SWITCH
SOUND TRAP
TDA 4661
R G B BL


CN104
12P
:BTOB
1 SIF
2 SYSI (M/S)
3 EXTA MONO
4 GND
5 SCL
6 SDA
7 9 (V)
8 R-IN (VOL OUT)
9 GND
10 LIN (TV OUT)
11 GND
12 IF
TO A1 BOARD
CN1201
TO C BOARD
FOCUS
TO PICTURE TUBE
HV
4 H1
3 GND
2 200V
1 1000V
CN851
4P
WHT
:MINI
TO C BOARD
CN701

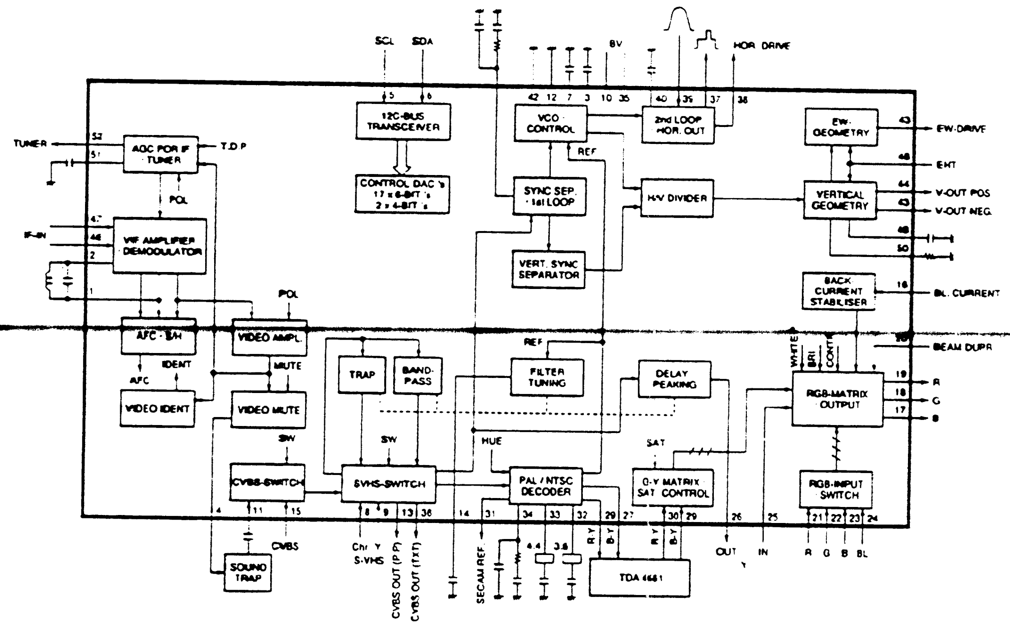
A BOARD ✻ MARK LIST

	KV-G25M1(ME)	KV-G25M1(HK)	KV-G25M1(RUSS)	KV-G25M11
CN106	NOT USED	NOT USED	NOT USED	12P : BTOB
CN601	TO POWER CORD	TO POWER CORD	TO F1 BOARD CN1602	TO POWER CORD
F601	T3.15A	T3.15A	NOT USED	T3.15A
FB801	1.1uH	1.1uH	1.9uH	1.1uH
JR103	NOT USED	NOT USED	NOT USED	0 : CHIP
JW032	NOT USED	NOT USED	15MM	NOT USED
JW132	NOT USED	NOT USED	15MM	NOT USED
Q302	NOT USED	NOT USED	NOT USED	2SC2412K
R020	NOT USED	NOT USED	NOT USED	100 : CHIP
R316	NOT USED	NOT USED	NOT USED	4.7K : CHIP
R317	NOT USED	NOT USED	NOT USED	1K : CHIP
R327	0 : CHIP	0 : CHIP	0 : CHIP	100 : CHIP
R328	0 : CHIP	0 : CHIP	0 : CHIP	100 : CHIP
R329	0 : CHIP	0 : CHIP	0 : CHIP	100 : CHIP
R334	NOT USED	NOT USED	NOT USED	470 : CHIP
R552	NOT USED	NOT USED	220K : CHIP	220K : CHIP
R553	NOT USED	NOT USED	0 : CHIP	0 : CHIP
R570	NOT USED	NOT USED	0 : CHIP	0 : CHIP
R635	NOT USED	NOT USED	NOT USED	22 2W : RS

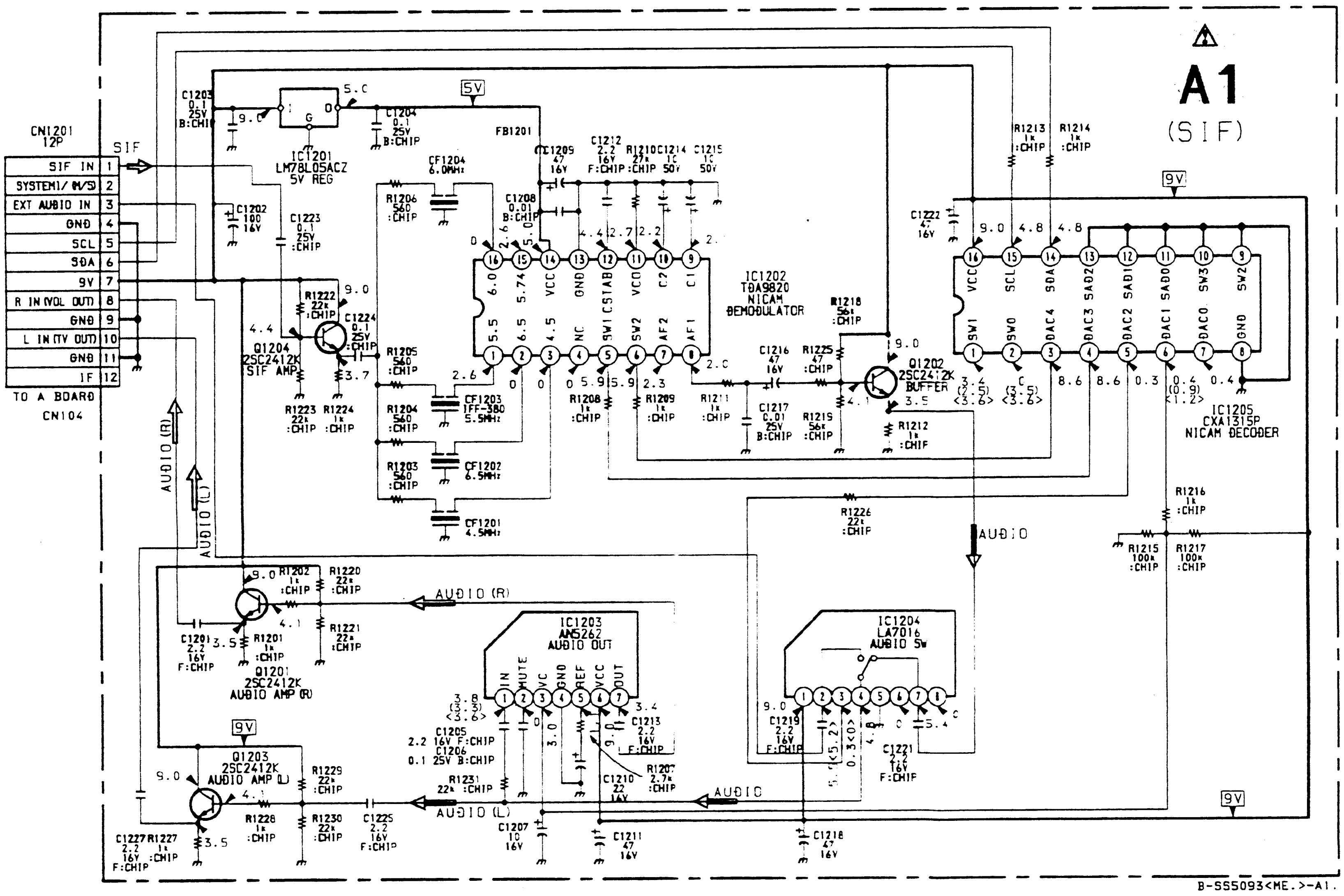
A BOARD IC351 TDA4665T

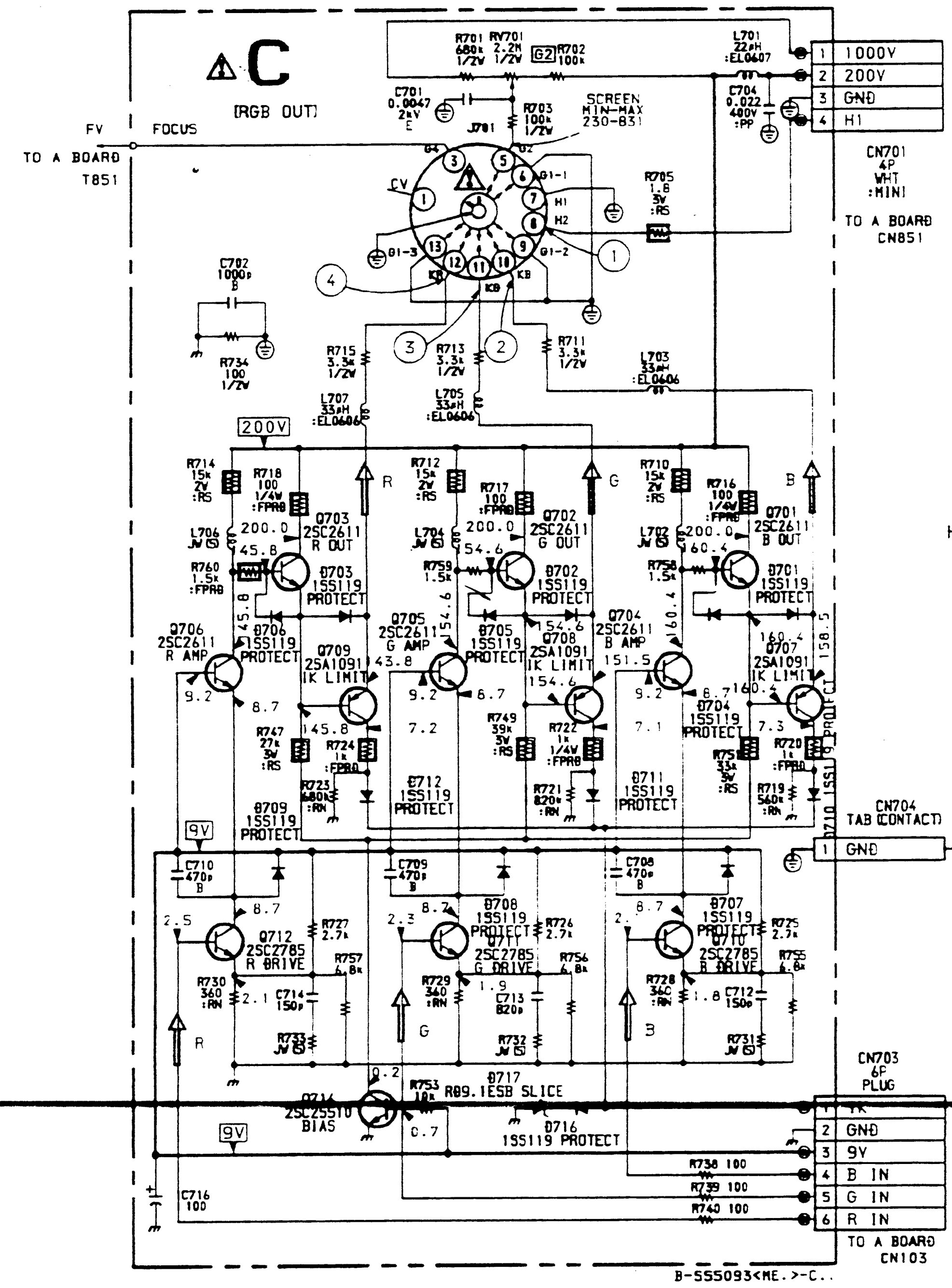

±(R-Y)
16
SIGNAL CLAMPING
LINE MEMORY
SAMPLE-AND-HOLD
LP
11
±(R-Y)
colour-difference input signals
pre-amplifiers
addition stages
output buffers
colour-difference output signals
±(B-Y)
14
SIGNAL CLAMPING
LINE MEMORY
SAMPLE-AND-HOLD
LP
12
±(B-Y)
V P1
9
analog supply
2 n.c
6 n.c.
13 n.c
15 n.c
7 i.c
TDA4665
3MHz shifting clock
sandcastle pulse input
5
SANDCASTLE DETECTOR
FREQUENCY PHASE DETECTOR
DIVIDER BY 192
LP
3MHz CCO
DIVIDER BY 2
10
digital supply
1
3
4, 8
GND1
V P2
GND2

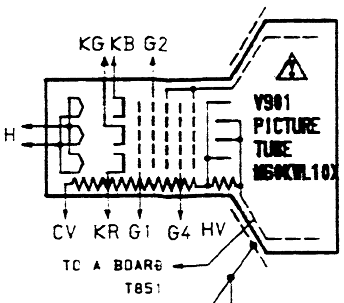
A BOARD IC300 TDA8366N3D


SCL
SDA
8V
HOR DRIVE
5
6
42 12 7 3 10 35
40 36 37 38
I2C-BUS TRANSCEIVER
CONTROL DAC's 17 x 6-BIT's 2 x 4-BIT's
VCO CONTROL
2nd LOOP HOR. OUT
REF
SYNC SEP. 1st LOOP
H-V DIVIDER
VERT. SYNC SEPARATOR
EW-GEOMETRY
VERTICAL GEOMETRY
43 EW-DRIVE
48 EHT
44 V-OUT POS
43 V-OUT NEG
49
50
BACK CURRENT STABILISER
16 BL. CURRENT
BEAM DUPR
TUNER
52
51
AGC FOR IF TUNER
T.D.P
POL
IF-IN
47
46
2
1
VIF AMPLIFIER DEMODULATOR
POL
AFC - S/H
VIDEO AMPL.
AFC
IDENT
MUTE
VIDEO IDENT
VIDEO MUTE
TRAP
BAND-PASS
REF
FILTER TUNING
DELAY PEAKING
WHITE
BRI
CONT
RGB-MATRIX OUTPUT
19 R
18 G
17 B
SW
SW
HUE
SAT
CVBS-SWITCH
SVHS-SWITCH
PAL / NTSC DECODER
G-Y MATRIX SAT CONTROL
RGB-INPUT SWITCH
4 11 15
8 9 13 36
14 31
34 33 32 29 27
30 29
26 25
21 22 23 24
SOUND TRAP
CVBS
Chr Y S-VHS
CVBS OUT (P.P)
CVBS OUT (TXT)
SECAM REF.
4.4
3.6
R-Y
B-Y
R-Y
B-Y
TDA 4661
OUT
IN
Y
R G B BL

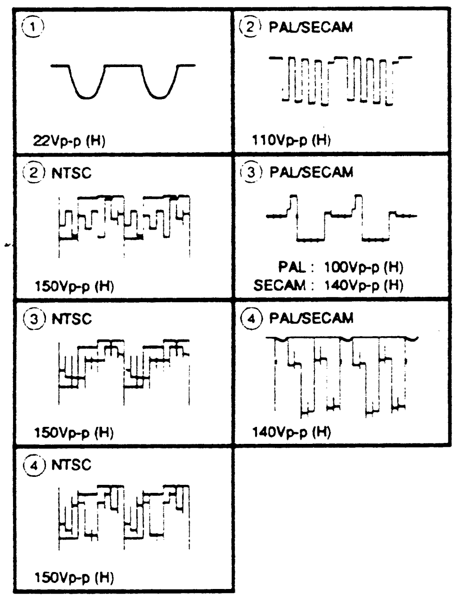
(2) Schematic Diagrams of A1, C, F1 and V1 Boards

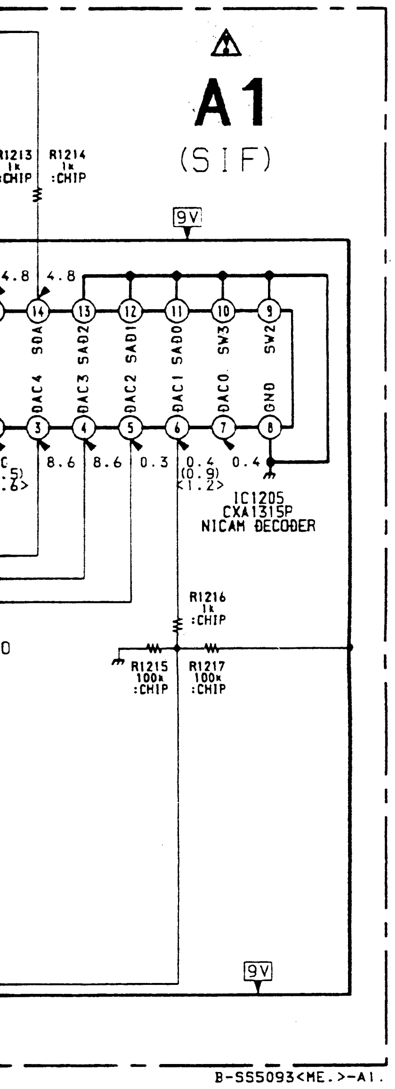

A1
(SIF)
CN1201 12P
SIF IN
SYSTEM1/ M/S
EXT AUDIO IN
GND
SCL
SDA
9V
R IN (VOL OUT)
GND
L IN (TV OUT)
GND
IF
TO A BOARD CN104
IC1201 LM78L05ACZ 5V REG
IC1202 TDA9820 NICAM DEMODULATOR
IC1205 CXA1315P NICAM DECODER
Q1204 2SC2412K SIF AMP
Q1202 2SC2412K BUFFER
Q1201 2SC2412K AUDIO AMP (R)
Q1203 2SC2412K AUDIO AMP (L)
IC1203 AN5262 AUDIO OUT
IC1204 LA7016 AUDIO SW
CF1204 6.0MHz
CF1203 IFF-380 5.5MHz
CF1202 6.5MHz
CF1201 4.5MHz
AUDIO (R)
AUDIO (L)
AUDIO
B-SS5093<ME.>-A1.


C
(RGB OUT)
FV
FOCUS
TO A BOARD T851
1000V
200V
GND
H1
CN701 4P WHT :MINI
TO A BOARD CN851
SCREEN MIN-MAX 230-831
Q703 2SC2611 R OUT
Q702 2SC2611 G OUT
Q701 2SC2611 B OUT
Q706 2SC2611 R AMP
Q705 2SC2611 G AMP
Q704 2SC2611 B AMP
Q709 2SA1091 IK LIMIT
Q708 2SA1091 IK LIMIT
Q707 2SA1091 IK LIMIT
Q712 2SC2785 R DRIVE
Q711 2SC2785 G DRIVE
Q710 2SC2785 B DRIVE
Q714 2SC2510 BIAS
D717 RD9.1ESB SLICE
D716 1SS119 PROTECT
CN704 TAB (CONTACT)
CN703 6P PLUG
IK
GND
9V
B IN
G IN
R IN
TO A BOARD CN103
B-SS5093<ME.>-C..

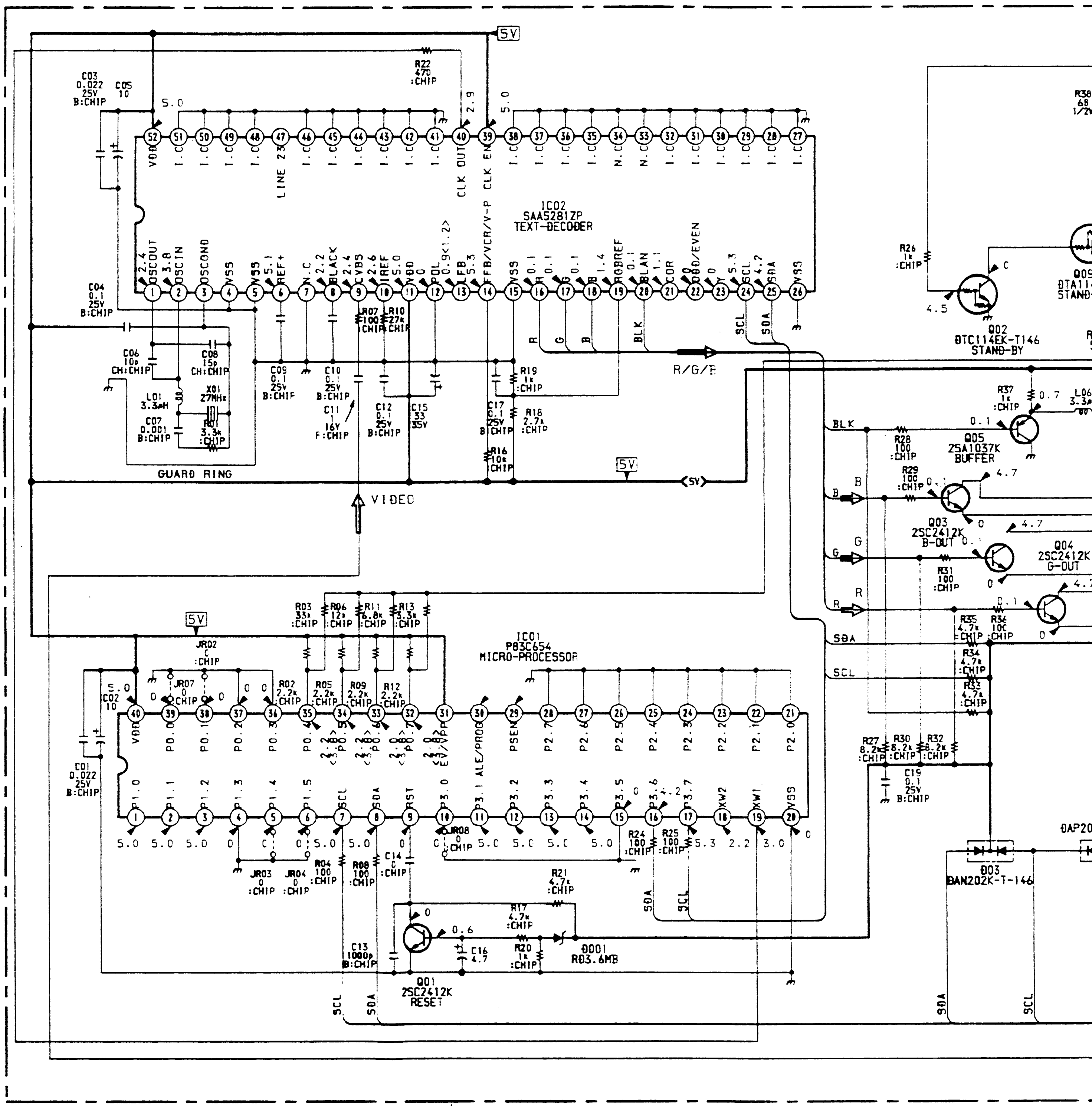

KG KB G2
H
V901 PICTURE TUBE M50KWL10X
CV KR G1 G4 HV
TO A BOARD T851

C BOARD WAVEFORMS

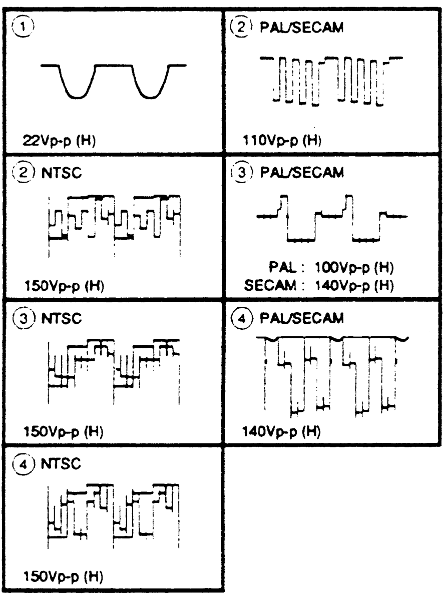



A1
(SIF)
R1213 1k :CHIP
R1214 1k :CHIP
9V
IC1205
CXA1315P
NICAM DECODER
SDA
SAD2
SAD1
SADO
SW3
SW2
DAC4
DAC3
DAC2
DAC1
DACO
GND
R1216 1k :CHIP
R1215 100k :CHIP
R1217 100k :CHIP
9V
B-SS5093<ME.>-A1.

(KV-G25M11 only)

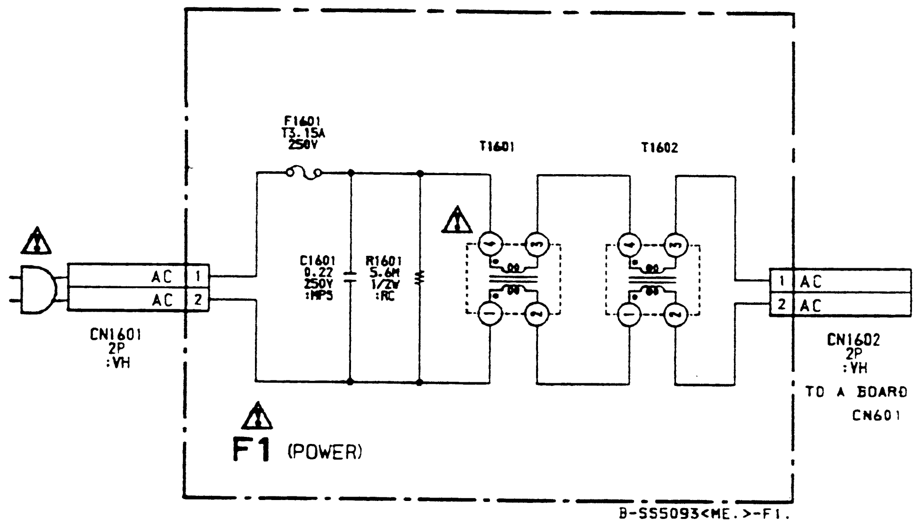

5V
R22 470 :CHIP
C03 0.022 25V B:CHIP
C05 10
IC02
SAA5281ZP
TEXT-DECODER
VDD
LINE 23
CLK OUT
CLK EN
OSCOUT
OSCIN
OSCGND
VSS
REF+
N.C
BLACK
CVBS
IREF
SCL
SDA
POL
FB
FB/VCR/V-P
ODBREF
BLAN
COR
ODD/EVEN
C04 0.1 25V B:CHIP
C06 10p CH:CHIP
C08 15p CH:CHIP
L01 3.3µH
X01 27MHz
C07 0.001 B:CHIP
R01 3.3k :CHIP
C09 0.1 25V B:CHIP
C10 0.1 25V B:CHIP
C11 1 16V F:CHIP
C12 0.1 25V B:CHIP
C15 33 35V
R07 100
R10 27k
R19 1k :CHIP
C17 0.1 25V B:CHIP
R18 2.7k :CHIP
R16 10k :CHIP
GUARD RING
VIDEO
R/G/B
BLK
5V
IC01
P83C654
MICRO-PROCESSOR
JR02 0 :CHIP
JR07 0 :CHIP
R02 2.2k :CHIP
R03 33k :CHIP
R06 12k :CHIP
R11 6.8k :CHIP
R13 3.3k :CHIP
R05 2.2k :CHIP
R09 2.2k :CHIP
R12 2.2k :CHIP
C02 10
C01 0.022 25V B:CHIP
ALE/PROG
PSEN
XW2
XW1
RST
JR03 0 :CHIP
JR04 0 :CHIP
R04 100 :CHIP
R08 100 :CHIP
C14 0 :CHIP
JR08 0 :CHIP
R24 100 :CHIP
R25 100 :CHIP
R21 4.7k :CHIP
R17 4.7k :CHIP
C13 1000p B:CHIP
C16 4.7
R20 1k :CHIP
D001 RD3.6MB
Q01
2SC2412K
RESET
R26 1k :CHIP
Q02
DTC114EK-T146
STAND-BY
R37 1k :CHIP
Q05
2SA1037K
BUFFER
R28 100 :CHIP
R29 10C :CHIP
Q03
2SC2412K
B-OUT
Q04
2SC2412K
G-OUT
R31 100 :CHIP
R35 4.7k :CHIP
R36 10C :CHIP
R34 4.7k :CHIP
R33 4.7k :CHIP
R27 8.2k :CHIP
R30 8.2k :CHIP
R32 8.2k :CHIP
C19 0.1 25V B:CHIP
D03
DAN202K-T-146
SDA
SCL

C BOARD WAVEFORMS

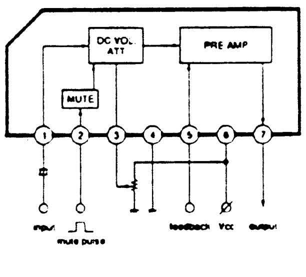


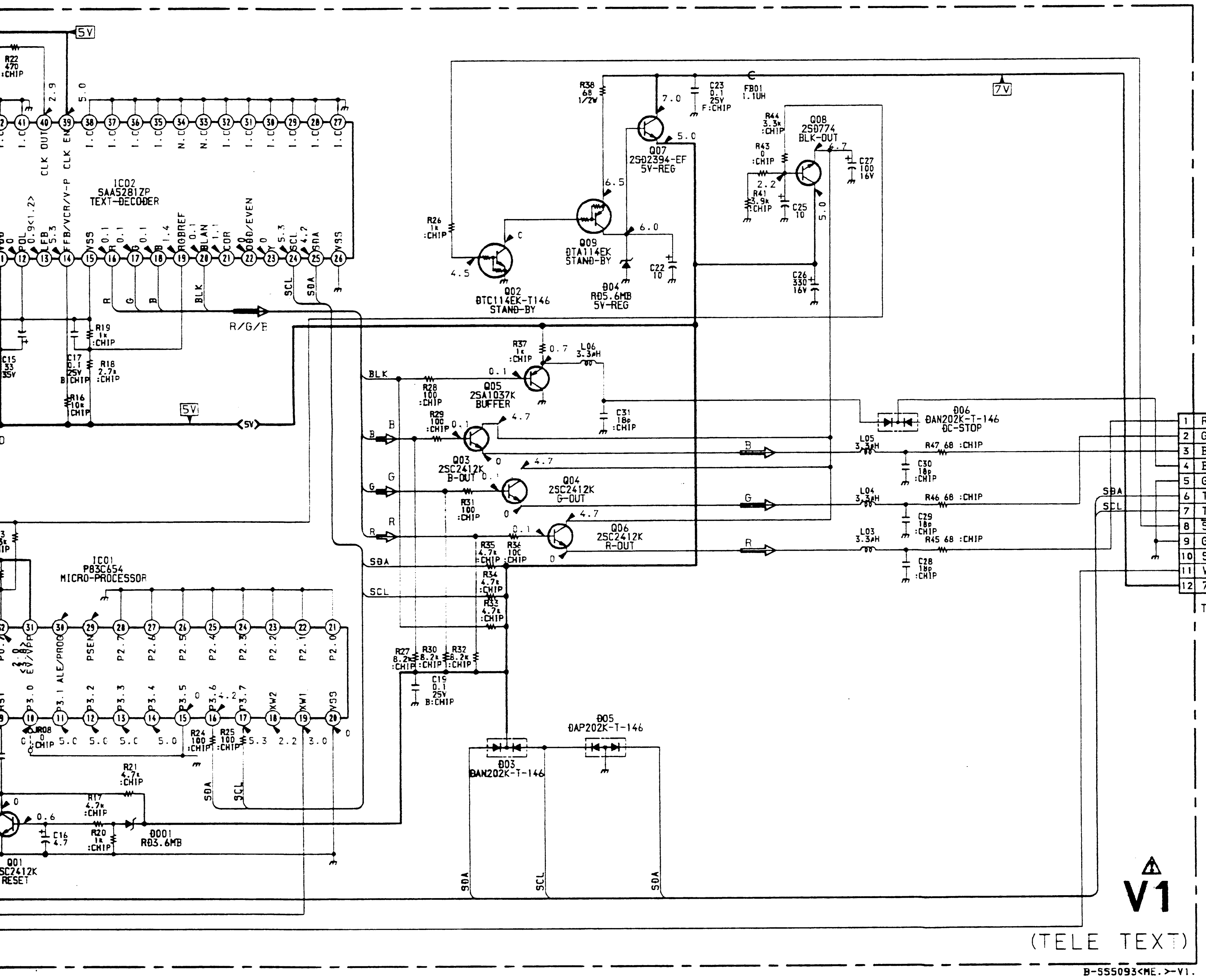
301
PICTURE
TUBE

(KV-G25M1 (RUSS) only)

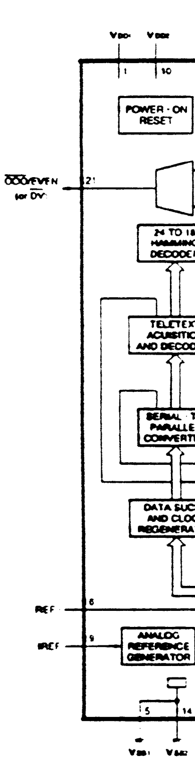

F1601
T3.15A
250V
T1601
T1602
C1601 0.22 250V :MPS
R1601 5.6M 1/2W :RC
AC 1
AC 2
CN1601 2P :VH
1 AC
2 AC
CN1602 2P :VH
TO A BOARD CN601
F1 (POWER)
B-SS5093<ME.>-F1.

A1 BOARD IC1203 AN5262


DC VOL ATT
PRE AMP
MUTE
input
mute pulse
feedback
Vcc
output


IC02 SAA5281ZP TEXT-DECODER
IC01 P83C654 MICRO-PROCESSOR
Q07 2SD2394-EF 5V-REG
Q08 2SB774 BLK-OUT
Q09 DTA114EK STAND-BY
Q02 DTC114EK-T146 STAND-BY
D04 RD5.6MB 5V-REG
Q05 2SA1037K BUFFER
Q03 2SC2412K B-OUT
Q04 2SC2412K G-OUT
Q06 2SC2412K R-OUT
D06 DAN202K-T-146 DC-STOP
D05 DAP202K-T-146
D03 DAN202K-T-146
Q01 2SC2412K RESET
D001 RD3.6MB
FB01 1.1UH
CN01 12P :BTOB
1 R
2 G
3 B
4 BLK
5 GND
6 TEXT SDA
7 TEXT SCL
8 ST-BY
9 GND
10 SSCP
11 VIDEO
12 7V
TO A BOARD CN106
5V
7V
R/G/B
BLK
SDA
SCL
V1
(TELE TEXT)
B-SS5093<ME.>-V1.

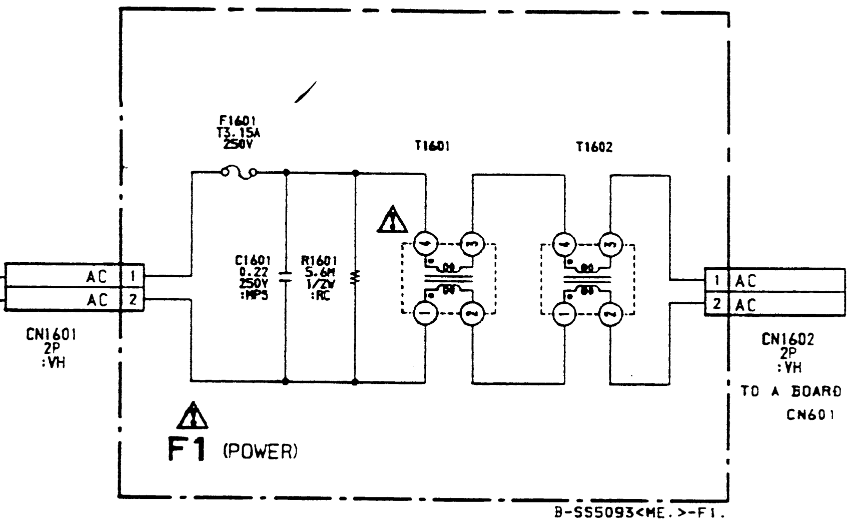
V1 BOAR

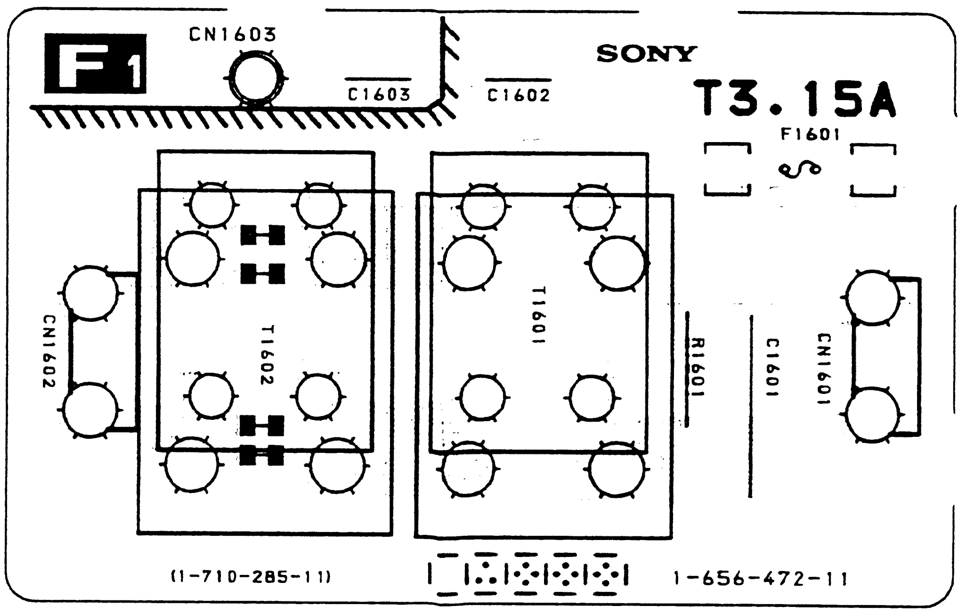

POWER-ON RESET
TELETEXT ACQUISITION AND DECODING
SERIAL TO PARALLEL CONVERTER
DATA SLICER AND CLOCK REGENERATOR
ANALOG REFERENCE GENERATOR

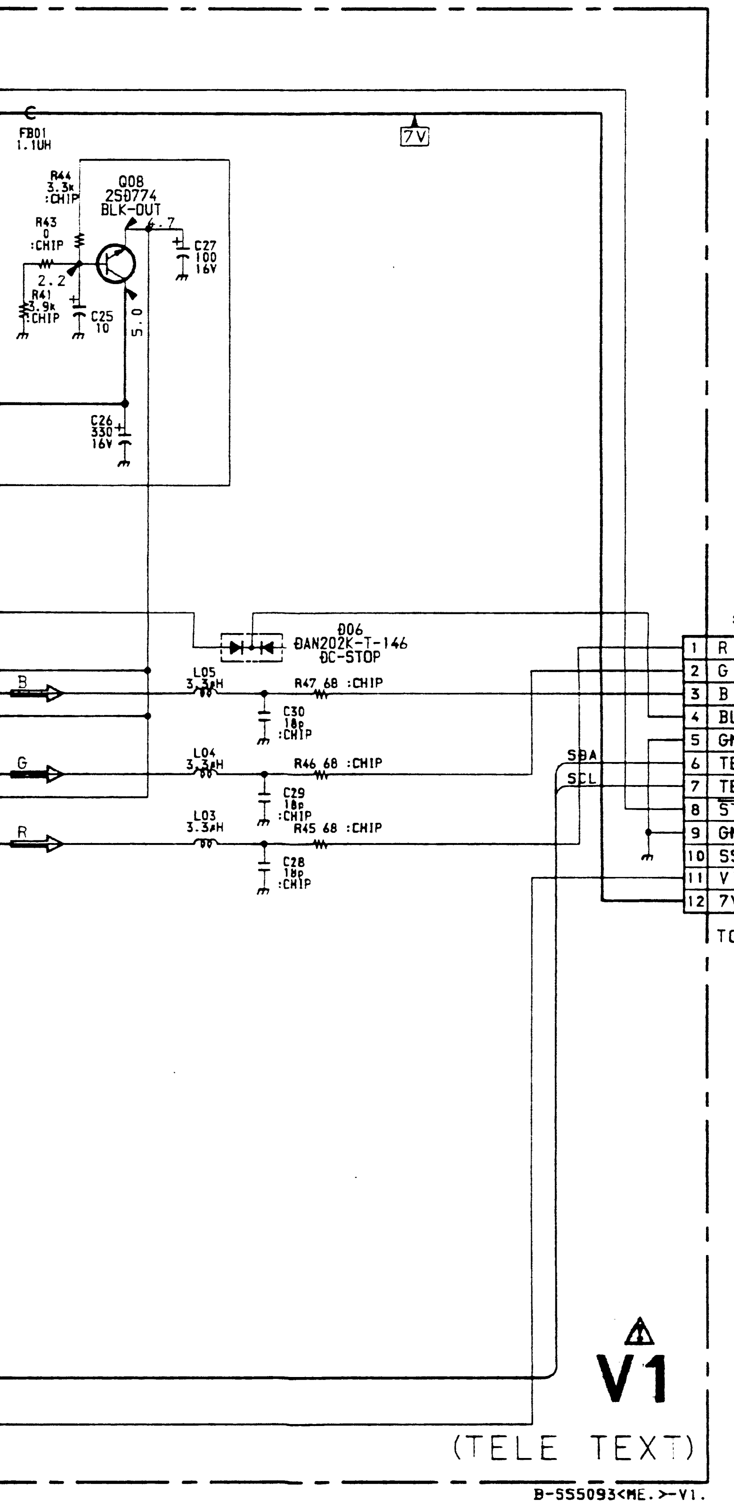
PRINTED WIRING BOARD **F1** [POWER]

– F1 Board – **(KV-G25M1 (RUSS) only)**

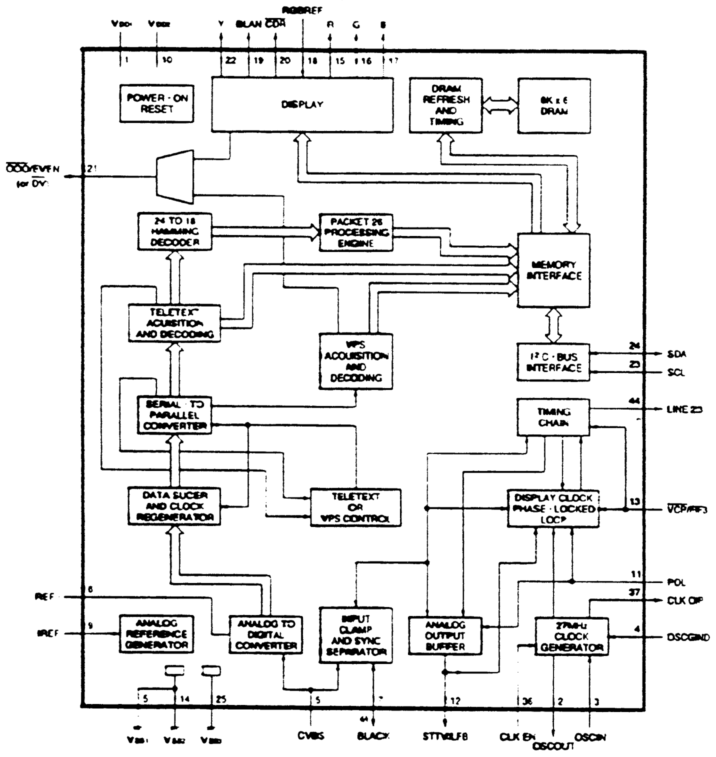
(KV-G25M1 (RUSS) only)


F1601 T3.15A 250V
T1601
T1602
C1601 0.22 250V :MPS
R1601 5.6M 1/2W :RC
AC 1
AC 2
CN1601 2P :VH
1 AC
2 AC
CN1602 2P :VH
TO A BOARD CN601
F1 (POWER)
B-SS5093<ME.>-F1.


F1
CN1603
C1603
C1602
SONY
T3.15A
F1601
CN1602
T1602
T1601
R1601
C1601
CN1601
(1-710-285-11)
1-656-472-11

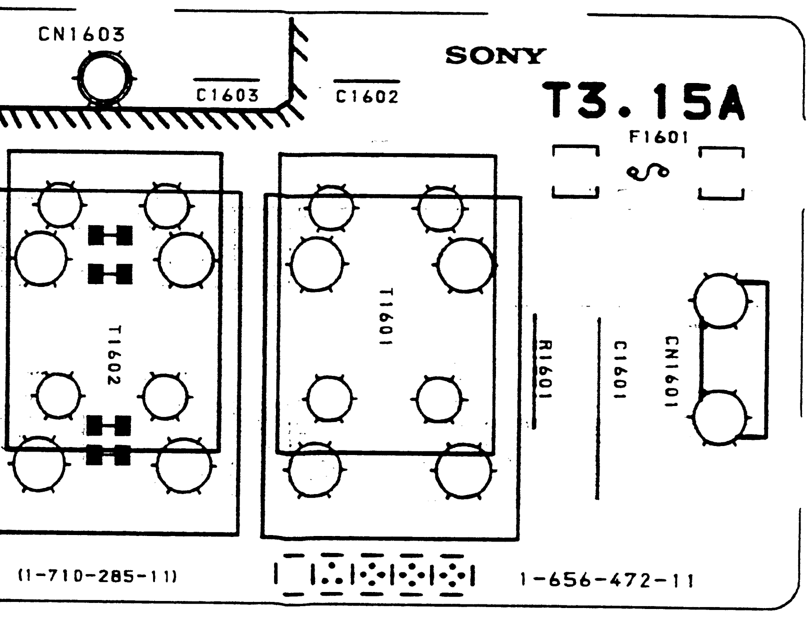

FB01
1.1UH
R44
3.3k
:CHIP
Q08
2SD774
BLK-OUT
R43
0
:CHIP
2.2
R41
3.9k
:CHIP
C25
10
C27
100
16V
5.0
4.7
C26
330
16V
7V
D06
DAN202K-T-146
DC-STOP
L05
3.3μH
R47 68 :CHIP
C30
18p
:CHIP
L04
3.3μH
R46 68 :CHIP
C29
18p
:CHIP
L03
3.3μH
R45 68 :CHIP
C28
18p
:CHIP
B
G
R
SDA
SCL
CN01
12P
:BTOB
1 R
2 G
3 B
4 BLK
5 GND
6 TEXT SDA
7 TEXT SCL
8 ST-BY
9 GND
10 SSCP
11 VIDEO
12 7V
TO A BOARD
CN106
V1
(TELE TEXT)
B-SS5093<ME.>-V1.

V1 BOARD IC02 SAA5281ZP


VDD1
VDD2
Y
BLAN
COR
RGBREF
R
G
B
1
10
22
19
20
18
15
16
17
POWER-ON RESET
DISPLAY
DRAM REFRESH AND TIMING
8K x 8 DRAM
ODD/EVEN (or DV)
21
24 TO 18 HAMMING DECODER
PACKET 26 PROCESSING ENGINE
MEMORY INTERFACE
TELETEXT ACQUISITION AND DECODING
VPS ACQUISITION AND DECODING
I²C-BUS INTERFACE
24
SDA
23
SCL
SERIAL TO PARALLEL CONVERTER
TIMING CHAIN
44
LINE 23
DATA SLICER AND CLOCK REGENERATOR
TELETEXT OR VPS CONTROL
DISPLAY CLOCK PHASE-LOCKED LOOP
13
VCR/FF3
11
POL
37
CLK O/P
REF
6
IREF
9
ANALOG REFERENCE GENERATOR
ANALOG TO DIGITAL CONVERTER
INPUT CLAMP AND SYNC SEPARATOR
ANALOG OUTPUT BUFFER
27MHz CLOCK GENERATOR
4
OSCGND
5
14
25
12
36
2
3
VSS1
VSS2
VSS3
CVBS
BLACK
STTV/LFB
CLK EN
OSCOUT
OSCIN

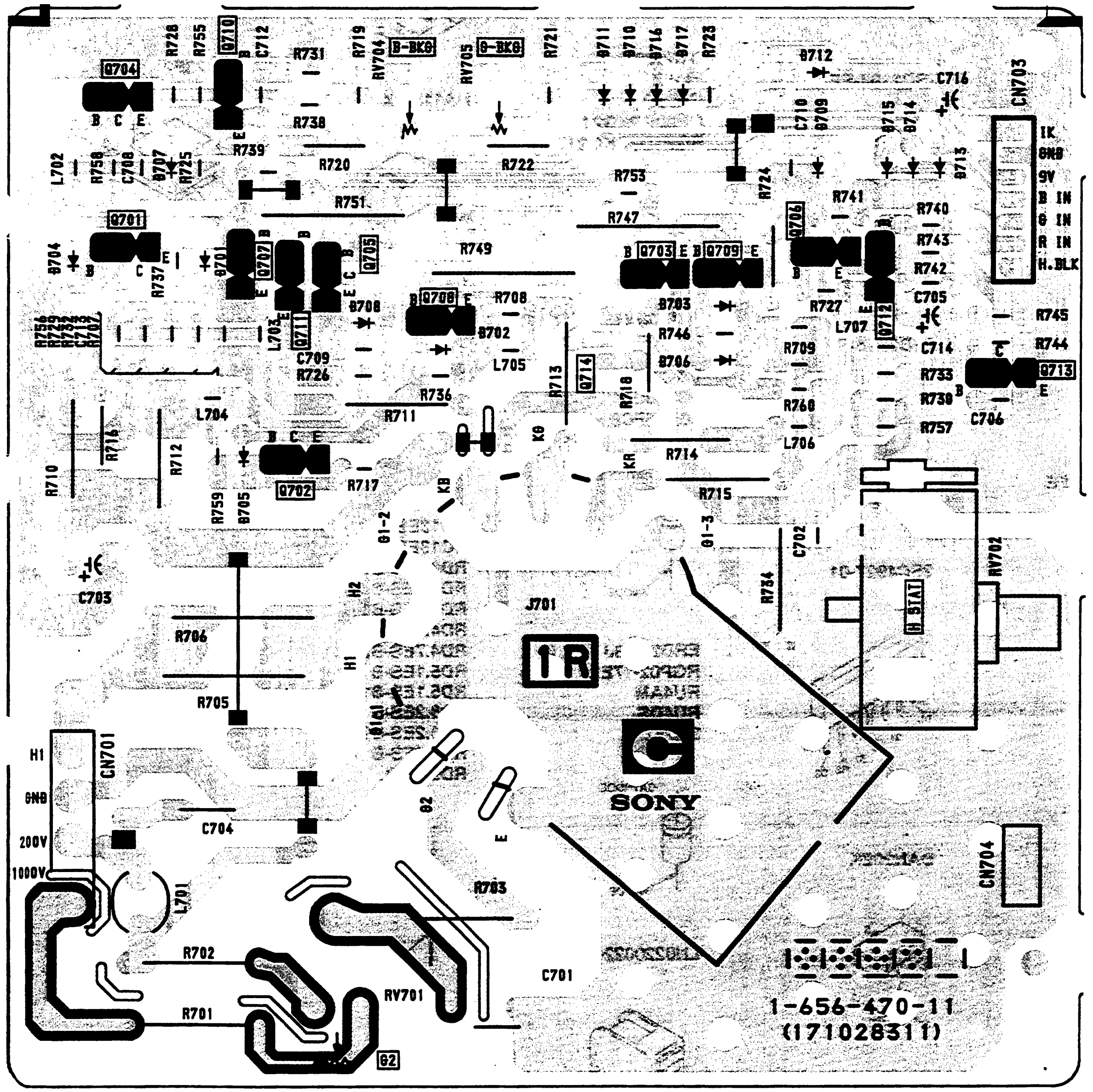
WIRING BOARD **F1** [POWER]

– (KV-G25M1 (RUSS) only)

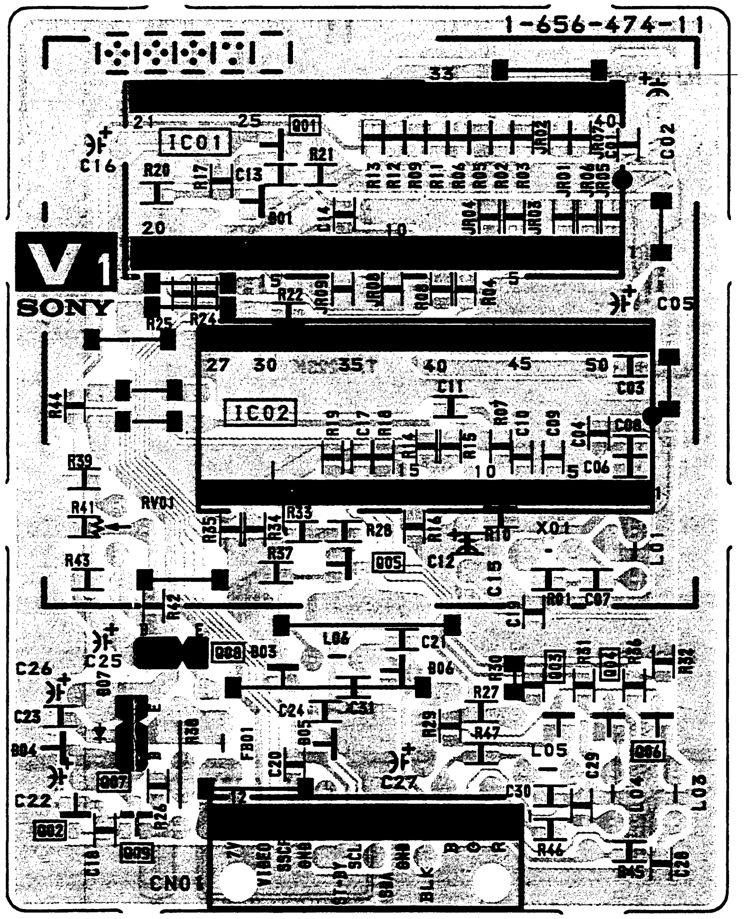

CN1603
SONY
C1603
C1602
T3.15A
F1601
T1602
T1601
R1601
C1601
CN1601
(1-710-285-11)
1-656-472-11

PRINTED WIRING BOARDS **A1** [SIF] **C** [RGB OUT] **V1** [TELE TEXT]

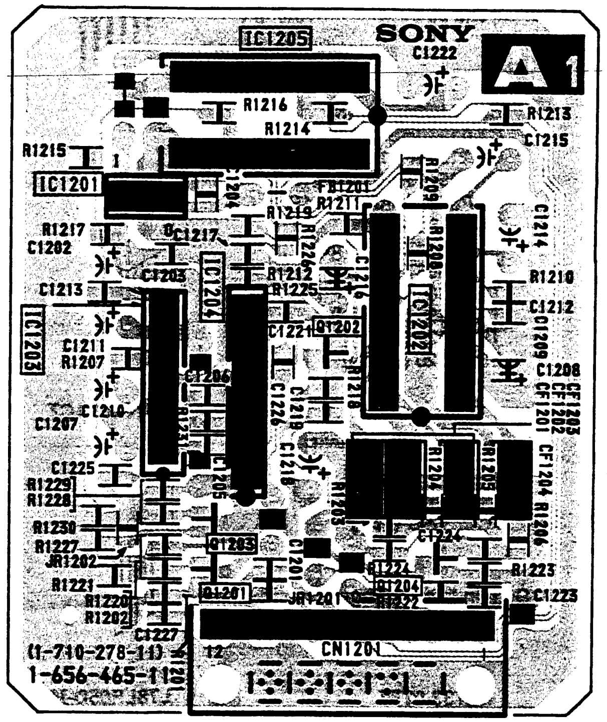
– C Board –


CN701
H1
GND
200V
1000V
CN703
IK
GND
9V
B IN
G IN
R IN
H.BLK
CN704
J701
RV701
RV702
C701
C704
L701
R701
R702
R703
SONY
1-656-470-11
(171028311)

– V1 Board – (KV-G25M11 only)

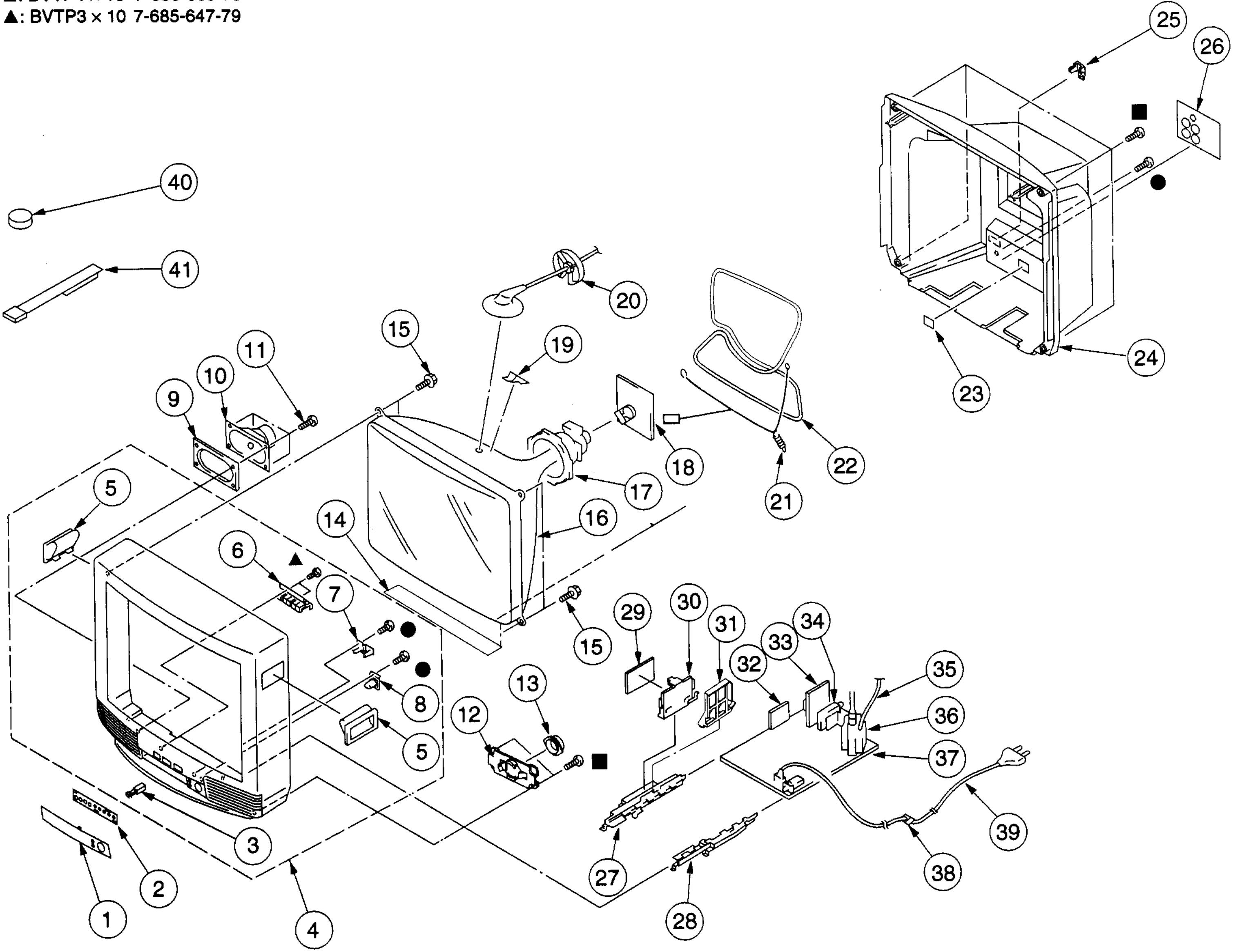

1-656-474-11
V1
SONY
IC01
IC02
RV01
X01
CN01
VIDEO
GND
SCL
SDA
BLK
B
G
R

– A1 Board –


SONY
A1
IC1201
IC1202
IC1203
IC1204
IC1205
CN1201
(1-710-278-11)
1-656-465-11

6-1. CHASSIS

●: BVTP3 × 12 7-685-648-79
■: BVTP4 × 16 7-685-663-79
▲: BVTP3 × 10 7-685-647-79


25
26
■
●
40
41
20
15
19
11
10
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18
22
24
23
21
17
16
5
14
6
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7
●
●
8
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37
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12
■
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1
4
27
28
38
39